

DOCUMENT RESUME

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AUTHOR Koziol, Stephen M., Jr.
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ABSTRACT

Designed to assess the ability to produce and recognize selected regular and irregular noun plural forms, researchers may infer from the results the extent to which children have internalized the rules governing pluralization patterns. Noun pluralization in English is divided into rules for "regular" nouns and learned forms for "irregular" nouns. Fourteen noun pluralization patterns are included. [This document is one of those reviewed in The Research Instruments Project (TRIP) monograph, "Measures for Research and Evaluation in the English Language Arts" to be published by the Committee on Research of the National Council of Teachers of English in cooperation with ERIC Clearinghouse on Reading and Communication Skills. A TRIP review which precedes the document lists its category (Language Development), title, author, date, and age range (preschool, primary), and describes the instrument's purpose and physical characteristics.] (RB)

NCTE Committee on Research

The Research Instruments Project (TRIP)

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The attached document contains one of the measures reviewed in the TRIP committee monograph titled:

Measures for Research and Evaluation in the English Language Arts

TRIP is an acronym which signifies an effort to abstract and make readily available measures for research and evaluation in the English language arts. These measures relate to language development, listening, literature, reading, standard English as a second language or dialect, teacher competencies, or writing. In order to make these instruments more readily available, the ERIC Clearinghouse on Reading and Communication Skills has supported the TRIP committee sponsored by the Committee on Research of the National Council of Teachers of English and has processed the material into the ERIC system. The ERIC Clearinghouse accession numbers that encompass most of these documents are CS 20/320 -CS 20/375.

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NATIONAL COUNCIL OF TEACHERS OF ENGLISH
1111 KENYON ROAD
URBANA, ILLINOIS 61801

Category: Language Development

Title: "Noun Plural Development Test"

Author: Stephen M. Koziol, Jr.

Age Range: Pre-school, Primary

Description of Instrument:

Purpose - To assess the ability to produce and recognize selected regular and irregular noun plural forms. Researchers may infer from the results the extent to which children have internalized the rules governing regular pluralization patterns.

Date of Construction - 1970

Physical Description - Noun pluralization in English is divided into rules for "regular" nouns and learned forms for "irregular" nouns. Fourteen noun pluralization patterns are included. Patterns one through four represent the four main patterns of the regular noun plural system and include: the regular /-s/, the phonologically conditioned /-z/, the non-phonologically conditioned /-z/, and the regular /-z/. Patterns five through eight consist of polysyllabic words paralleling the monosyllabic words in patterns one through four. Pattern nine includes words which end in an /-st/ or /-sk/ cluster; pattern ten includes words ending in a consonant cluster in which the final phoneme is voiceless; pattern eleven includes words ending in a consonant cluster in which the final phoneme is voiced. From the wide variety of irregular words in English, three patterns were chosen. Pattern twelve includes real words which typically use a regular /-z/ allomorph after the final voiceless spirant /-f/ in the base word has been changed to its voiced counterpart. Nonsense words were included in this pattern in order to examine the extent to which a child over-generalized the irregular form to previously unencountered words of the same phonemic shape. Pattern thirteen includes real and nonsense words which indicate objects whose structure, at least in part, is double. With these words--e.g., glasses, pants, pajamas, etc.--the number of double units is usually indicated by the presence or absence of the plural allomorph in the phrase "pair of" which precedes the word. Thus, the singular-plural contrast would be indicated through "one pair of pants--two pairs of pants." The final pattern, Pattern fourteen, includes only real words which typically form the plural through an intervocalic change. These "normal irregulars" include such contrasts as foot-feet, tooth-teeth, or man-men. Real words for each pattern were selected from the Rinsland list, according to a variety of criteria. Nonsense words were created for the first thirteen patterns. The complete list of 116 words follows:

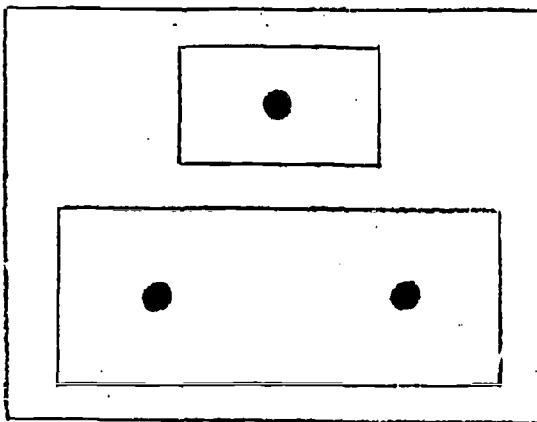
Pattern I	Pattern II	Pattern III	Pattern IV
1. top	club	bell	box tox
2. cat	bed	boy	glass tass
3. book	dog	tree	nose floze
4. chief	cave	star	brush clash
5. blop	plub	gell	dish mish
6. gat	zed	noy	church blurch
7. trook	wog	cree	watch gatch
8. prief	lave	flar	cage tage

Pattern V	Pattern VI	Pattern VII	Pattern VIII
1. envelope	bathrub	flower	necklace
2. basket	airplane	apple	trapeze
3. rabbit	chicken	baby	cabbage
4. giraffe	wagon	umbrella	orange
5. padelope	bachub	sloter	velbace
6. jasket	atablane	jepple	baneze
7. flabbit	ziken	traby	fribbage
8. millaffe	shegon	tunella	gollange

Pattern IX	Pattern X	Pattern XI
1. nest	plant	arm
2. post	heart	girl
3. desk	fork	bird
4. mask	pump	hand
5. kest	crant	jarm
6. zost	plart	mirl
7. gesk	iork	lird
8. nask	tump	rand

Pattern XII	Pattern XIII	Pattern XIV
1. wolf	pajamas	foot
2. knife	pants	man
3. leaf	pliers	mouse
4. scarf	scissors	tooth
5. sholf	panagas	
6. rife	shants	
7. heaf	nellers	
8. glarf	fazors	

Test items were constructed so that the child would see two pictures on each test page: one picture contains a single figure or object and the other picture contains two of the same figure or object. A sample test page follows:



In the production task, the tester points to the picture of the singular figure at the top of the page and says, "In this picture you see one dot." Then, pointing to the bottom picture, the tester says, "In this picture you see two _____. " The procedure is reversed for singular response items. For the recognition task, the tester says the word in either its singular or plural form and then asks the child to point to the picture on the page which best "fits" with the word he has said. The test is administered in three sessions.

Validity, Reliability and Normative Data:

Content validity was established through linguistic analysis. No reliability estimates are available. Normative data concern white, middle class, native speakers of English in grades kindergarten through three.

Ordering Information:

EDRS

Related Documents:

Koziol, S. M. An analysis of the development of noun plural rules in the primary grades. Unpublished doctoral dissertation, Stanford University, 1970.

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ORDER OF PRESENTATION OF TEST ITEMS

PRODUCTION TASK*

Test 1	Test 2	Test 3
1. Rand	Sholf	Trees
2. Gats	Nask	Hands
3. Necklacle	Pair of Fazors	Boy
4. Gesks	Brush	Arm
5. Umbrella	Jepples	Floze
6. Bathtub	Pair of Shants	Leaf
7. Watches	Cabbage	Plant
8. Wolves	Desks	Pair of Scissors
9. Glarf	Zost	Heafs
10. Lird	Oranges	Bird
11. Clushes	Chief	Atablane
12. Mice	Plubs	Pairs of Panagas
13. Bachub	Flar	Post
14. Gells	Toxes	Box
15. Mask	Jaskets	Laves
16. Jarms	Club	Teeth
17. Miris	Pairs of Pants	Flowers
18. Crees	Blop	Bed
19. Foot	Top	Wog
20. Mish	Blurches	Shegons
21. Tunella	Chickens	Giraffes
22. Prief	Dogs	Velbaces
23. Trapezes	Scarf	Pairs of Nellers
24. Cage	Caves	Envelope
25. Glasses	Star	Lork
26. Rifes	Traby	Dishes
27. Tass	Zed	Airplane
28. Noy	Millaffe	Baneze
29. Man	Rabbit	Knives
30. Kests	Church	Grants
31. Baby	Frebbages	Flabbit
32. Cats	Tages	Trooks
33. Noses	Pairs of Pierrs	Gollange
34. Sloters	Wagons	Gatch
35. Padelopes	Nests	Pumps
36. Girls	Books	Apples
37. Heart	Tump	Baskets
38. Plarts	Zikens	Bells
39. Pair of Pajamas		

*Indicated by the form of the Stimulus Word

ORDER OF PRESENTATION OF TEST ITEMS

RECOGNITION TASK*

Test 1	Test 2	Test 3
1. Nose	Airplane	Beds
2. Dog	Watches	Chiefs
3. Pairs of Shants	Heart	Pair of Panagas
4. Cage	Jepple	Churches
5. Pair of Fazors	Dish	Masks
6. Flowers	Umbrellas	Man
7. Gat	Club	Tumps
8. Boys	Nest	Velbaces
9. Feet	Noys	Clush
10. Blops	Trapezes	Pair of Pants
11. Plants	Flars	Tops
12. Necklace	Wogs	Desk
13. Fork	Pumps	Wolves
14. Zed	Wagons	Teeth
15. Lork	Ziken	Mish
16. Flabbit	Hand	Bell
17. Girls	Gatch	Rands
18. Sloters	Cat	Atablanes
19. Posts	Scarves	Oranges
20. Kest	Plarts	Pair of Pliers
21. Shegons	Padelope	Jarm
22. Chickens	Gesks	Bird
23. Pairs of Nellers	Giraffe	Tages
24. Tasses	Caves	Bachub
25. Millaffes	Trooks	Plub
26. Cabbage	Mirl	Glarf
27. Rifes	Brush	Trabies
28. Lirds	Glasses	Gollanges
29. Zosts	Rabbit	Floze
30. Envelopes	Book	Tunella
31. Cree	Pairs of Pajamas	Jaskets
32. Star	Crant	Frebbage
33. Heafs	Toxes	Pairs of Scissors
34. Laves	Knife	Blurches
35. Trees	Arms	Baneze
36. Baskets	Apple	Nask
37. Sholf	Bathtub	Baby
38. Gell	Mouse	Prief
39. Leaf	Boxes	

*Indicated by the form of the expected Response

ORAL PRODUCTION TASK DIRECTIONS

TO THE TESTER:

Please make sure that each child understands what he is expected to do before beginning the test. If you have any questions, see me immediately.

Test Directions:

ON EACH PAGE, YOU WILL SEE TWO PICTURES. (show the child the picture with one dot at the top and two dots at the bottom)

ONE OF THE PICTURES WILL SHOW JUST ONE THING--LIKE THIS. (point to the picture of the single dot)

THE OTHER PICTURE WILL SHOW TWO OBJECTS--LIKE THIS. (point to the picture of the two dots)

ON EACH PAGE, I WILL TELL YOU WHAT IS IN THE TOP PICTURE--LIKE THIS:

IN THIS PICTURE YOU SEE ONE "DOT!"

I WILL THEN ASK YOU TO TELL ME WHAT IS IN THE BOTTOM PICTURE--LIKE THIS:

IN THIS PICTURE YOU SEE TWO _____. (make sure the child responds with some kind of plural form)

IF THE PICTURES ARE IN THE OTHER ORDER:(reverse the order of the dots. Place the picture of two dots at the top.) I WILL SAY . . .

IN THIS PICTURE YOU SEE TWO "DOTS!"

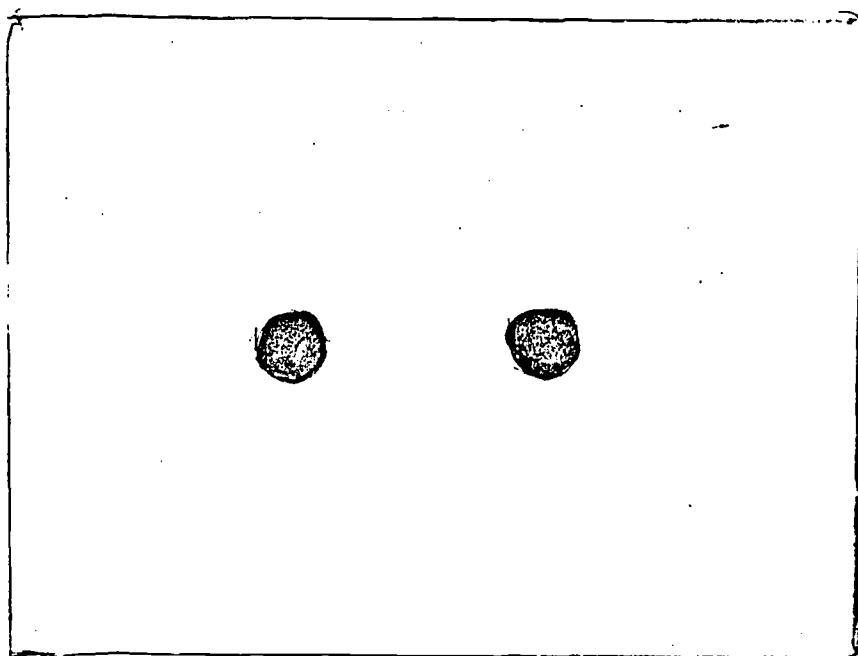
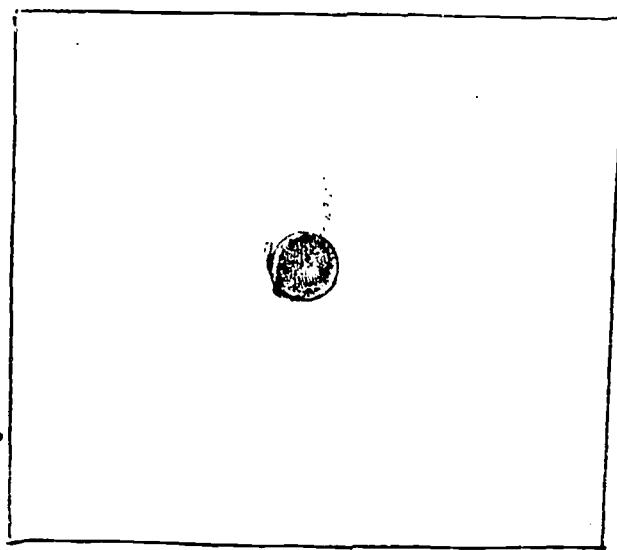
IN THIS PICTURE YOU SEE ONE _____. (again, make sure the child responds with the correct word.)

SOME OF THE WORDS AND PICTURES WILL BE OF THINGS THAT YOU KNOW. SOME WILL BE QUITE NEW TO YOU. LISTEN CAREFULLY TO THE WORD I SAY FOR THE TOP PICTURE; THEN TELL ME WHAT IS IN THE BOTTOM PICTURE.

OKAY?

(if no questions and the child seems to understand, then begin the test.)

SAMPLE PICTURE FOR DIRECTIONS



ORAL RECOGNITION TASK DIRECTIONS

TO THE TESTER:

Please make sure that each child understands what he is expected to do before beginning the test. If you have any questions, see me immediately.

Test Directions:

ON EACH PAGE, YOU WILL SEE TWO PICTURES. (show the child the picture with one dot at the top and two dots at the bottom).

ONE OF THE PICTURES WILL SHOW JUST ONE THING-- LIKE THIS. (point to the picture of the single dot) THE OTHER PICTURE WILL SHOW TWO OBJECTS--LIKE THIS. (point to the picture of the two dots)

ON EACH PAGE, I WILL SAY A WORD WHICH MEANS EITHER ONE THING OR MORE THAN ONE THING. FOR EXAMPLE, IF I SAID THE WORD, DOT, WHICH PICTURE WOULD YOU POINT TO? (if the child points correctly, say "good" and then proceed)

IF I SAID THE WORD, DOTS, WHICH PICTURE WOULD YOU POINT TO? (again, say good if the child responds correctly)

(reverse the order of the pictures and say) NOW IF THE PICTURES WERE THIS WAY AND I SAID THE WORD, DOT, WHICH PICTURE WOULD YOU POINT TO? (if the child responds correctly, get ready to begin the test. If he does not, repeat this procedure again. If he still does not understand, see me.)

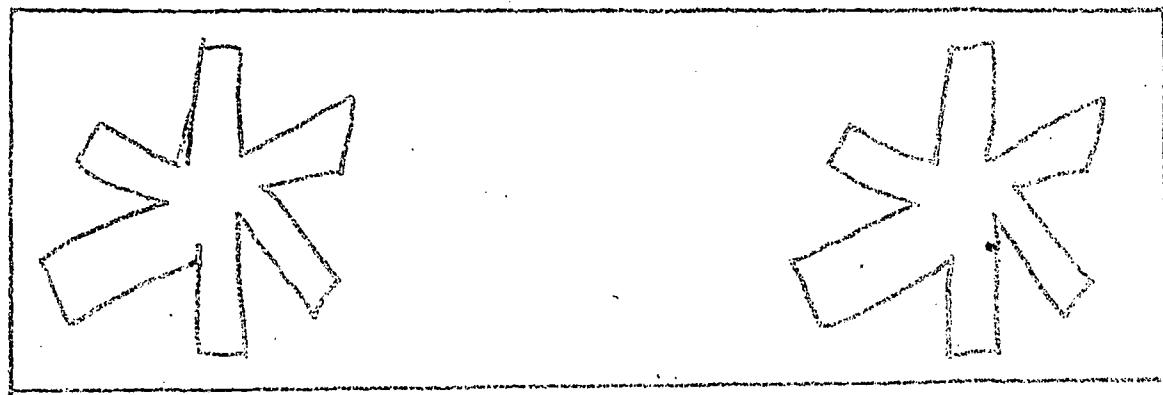
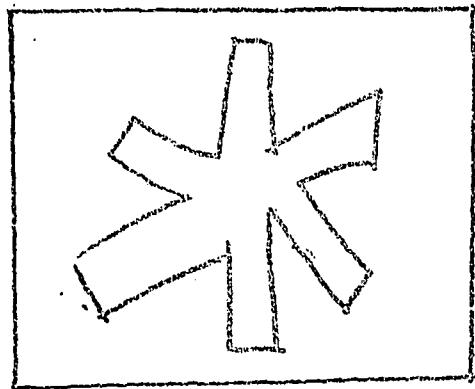
SOME OF THE WORDS AND PICTURES WILL BE OF THINGS THAT YOU KNOW. SOME WILL BE QUITE NEW TO YOU. LISTEN CAREFULLY TO THE WORD I SAY, THEN POINT TO THE PICTURE WHICH BEST GOES WITH THAT WORD

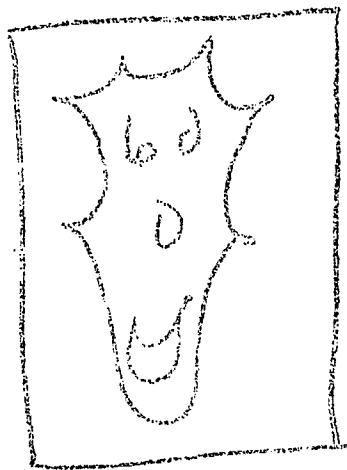
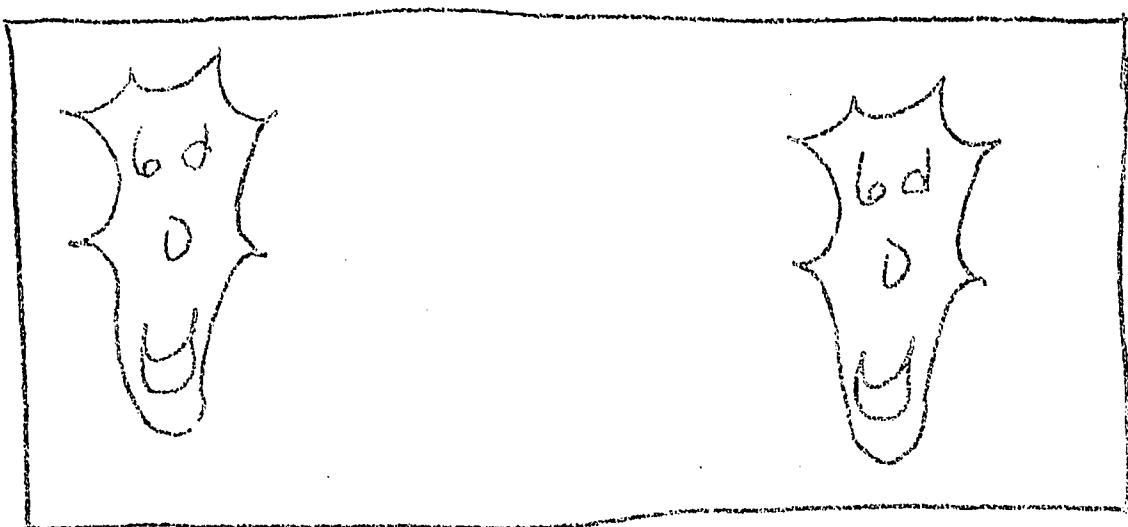
OKAY?

(If no questions and the child seems to understand, then begin the test.

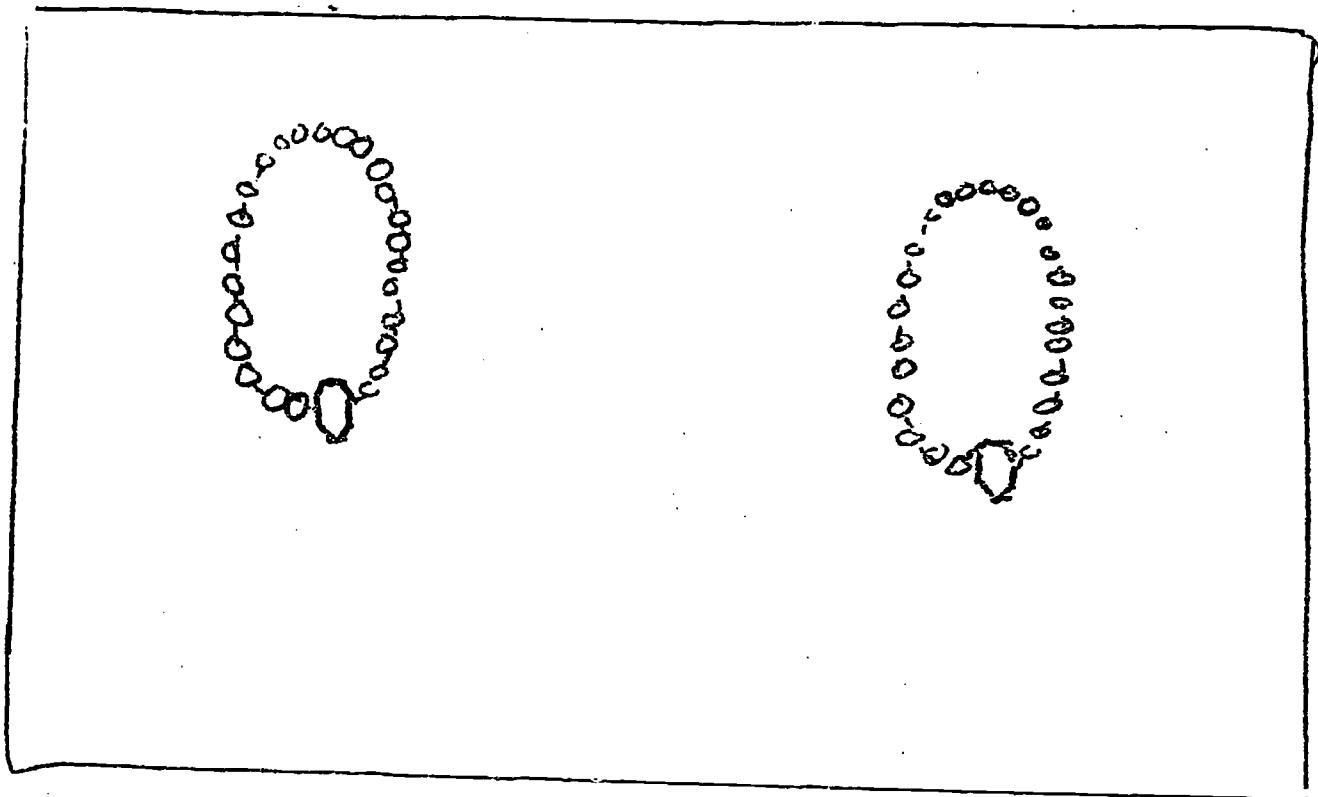
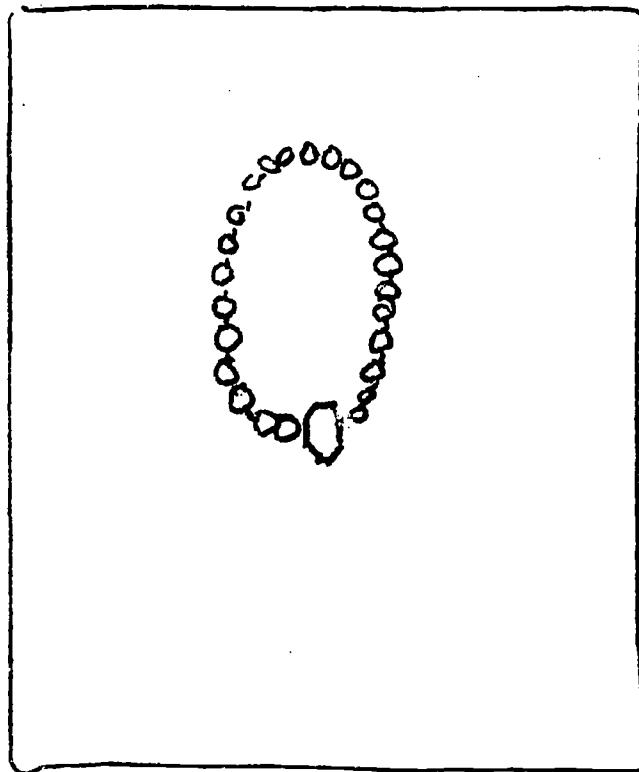
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Test 1 - Production Task

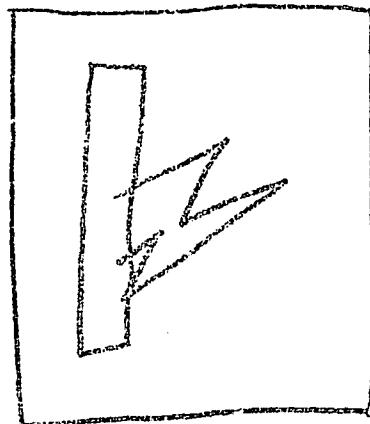
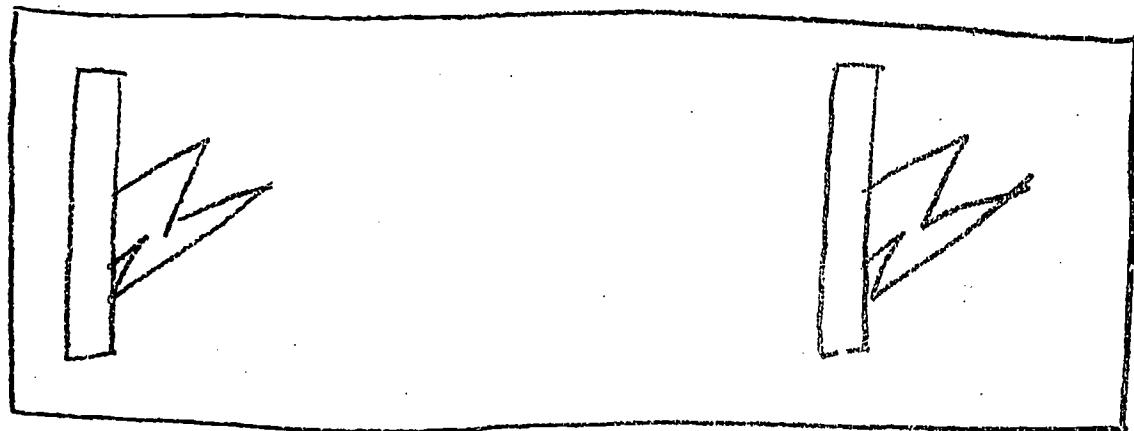


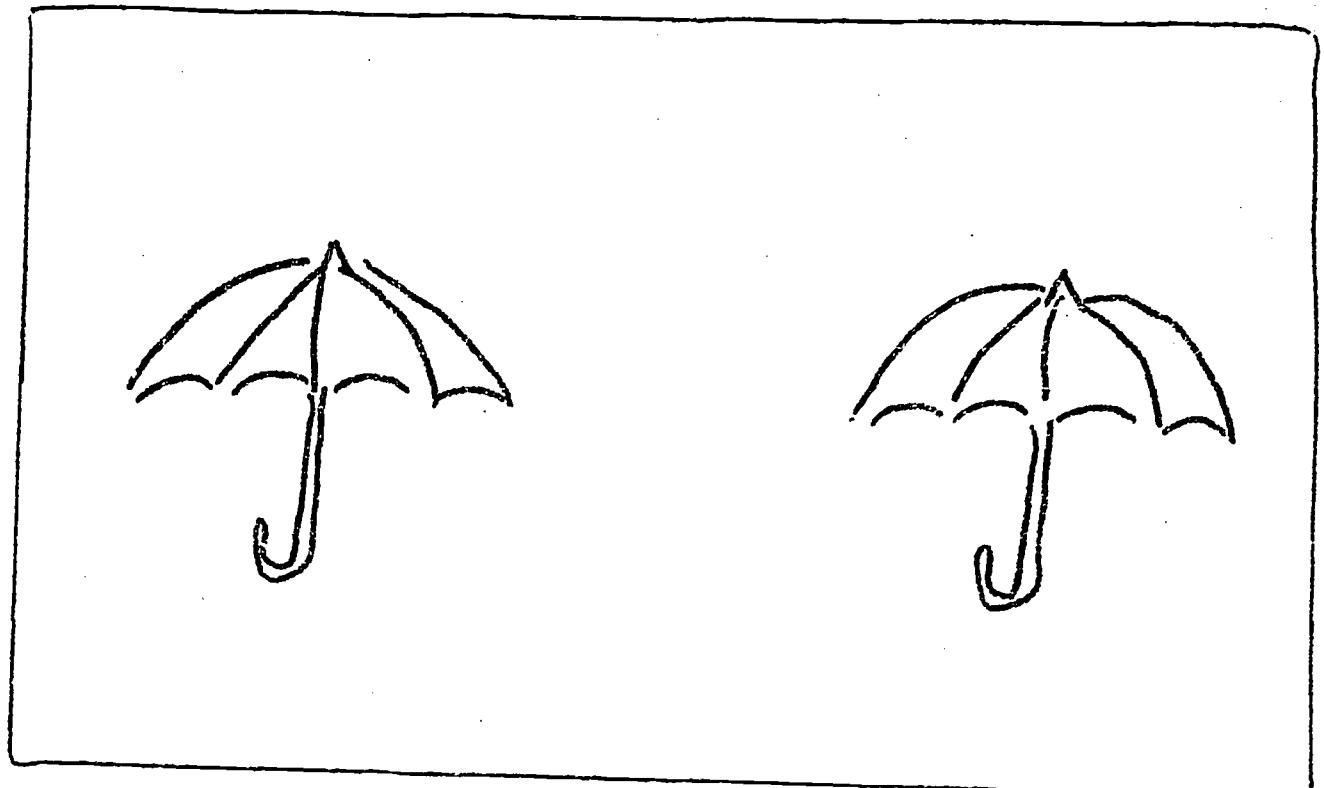
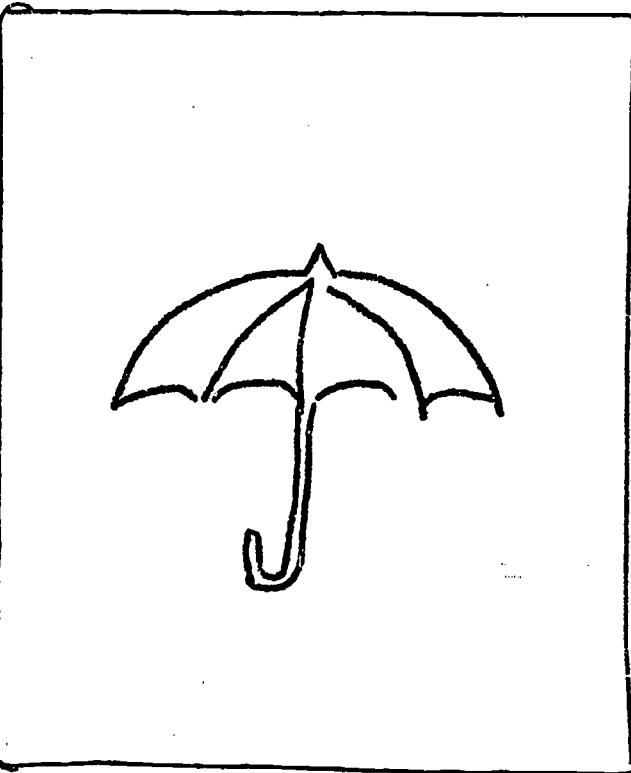


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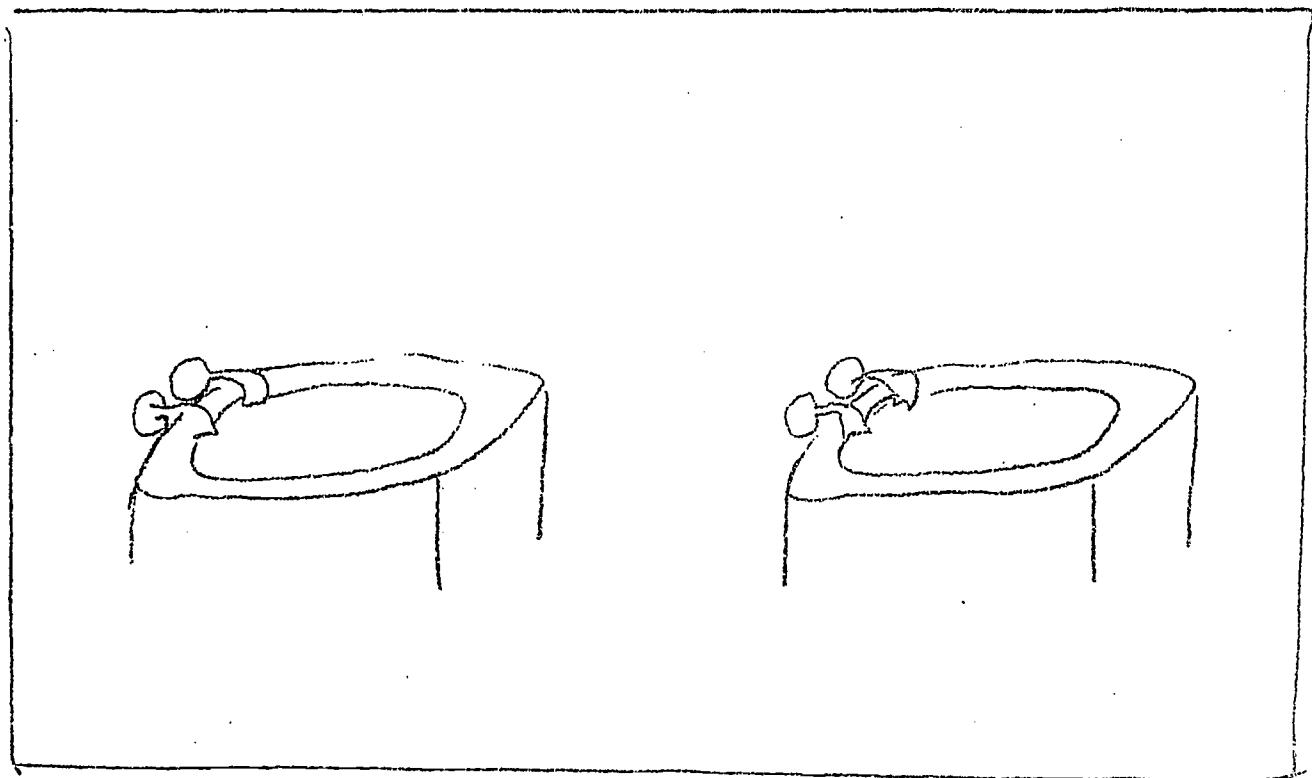
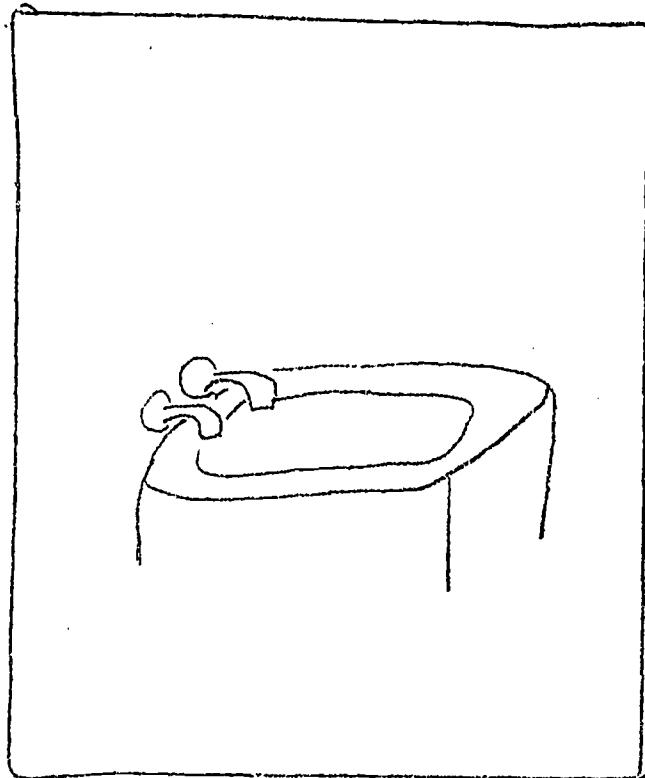


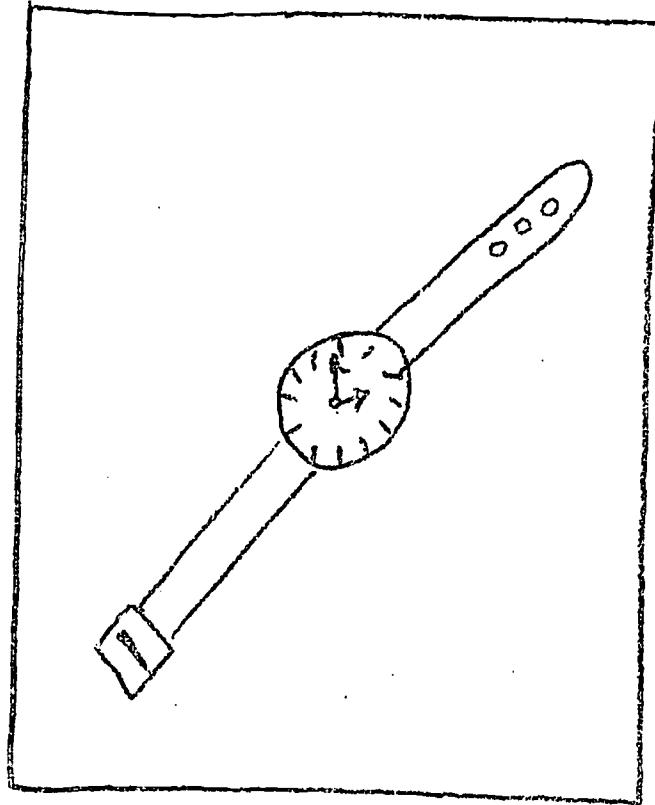
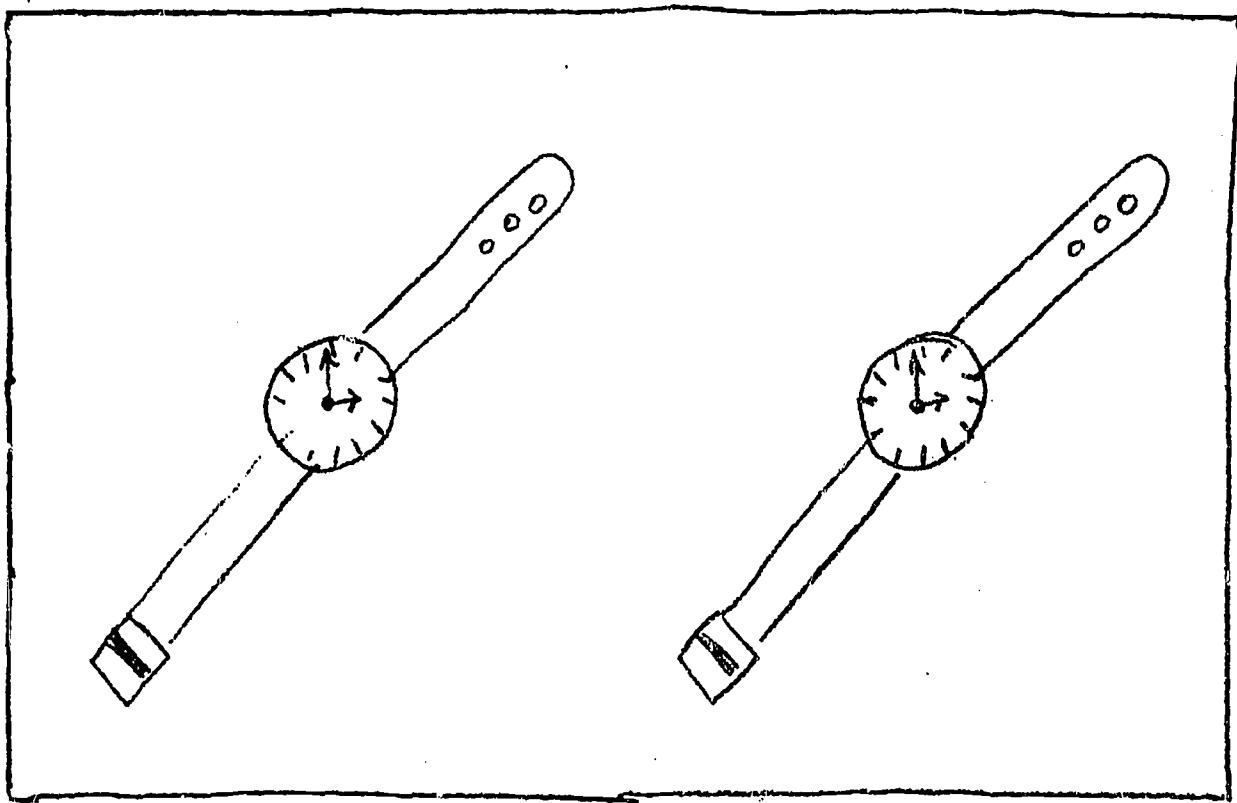
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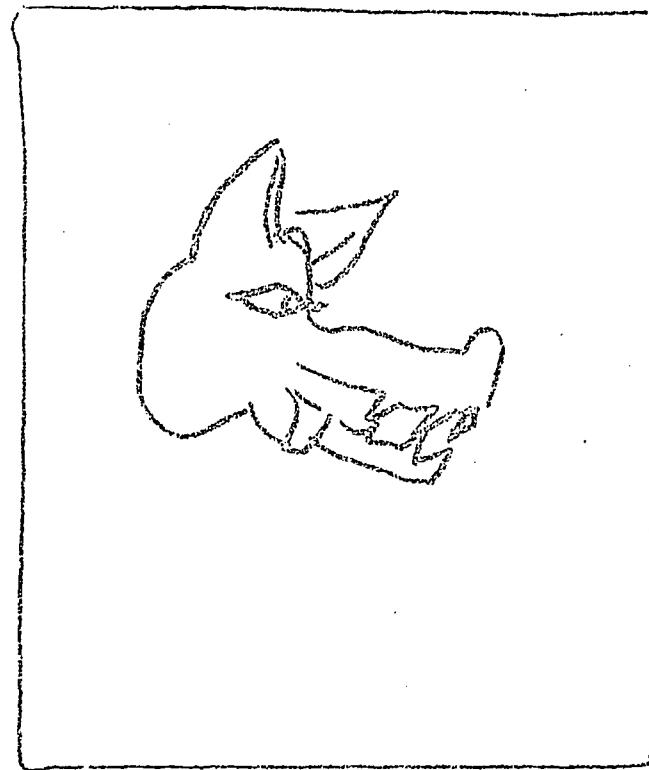
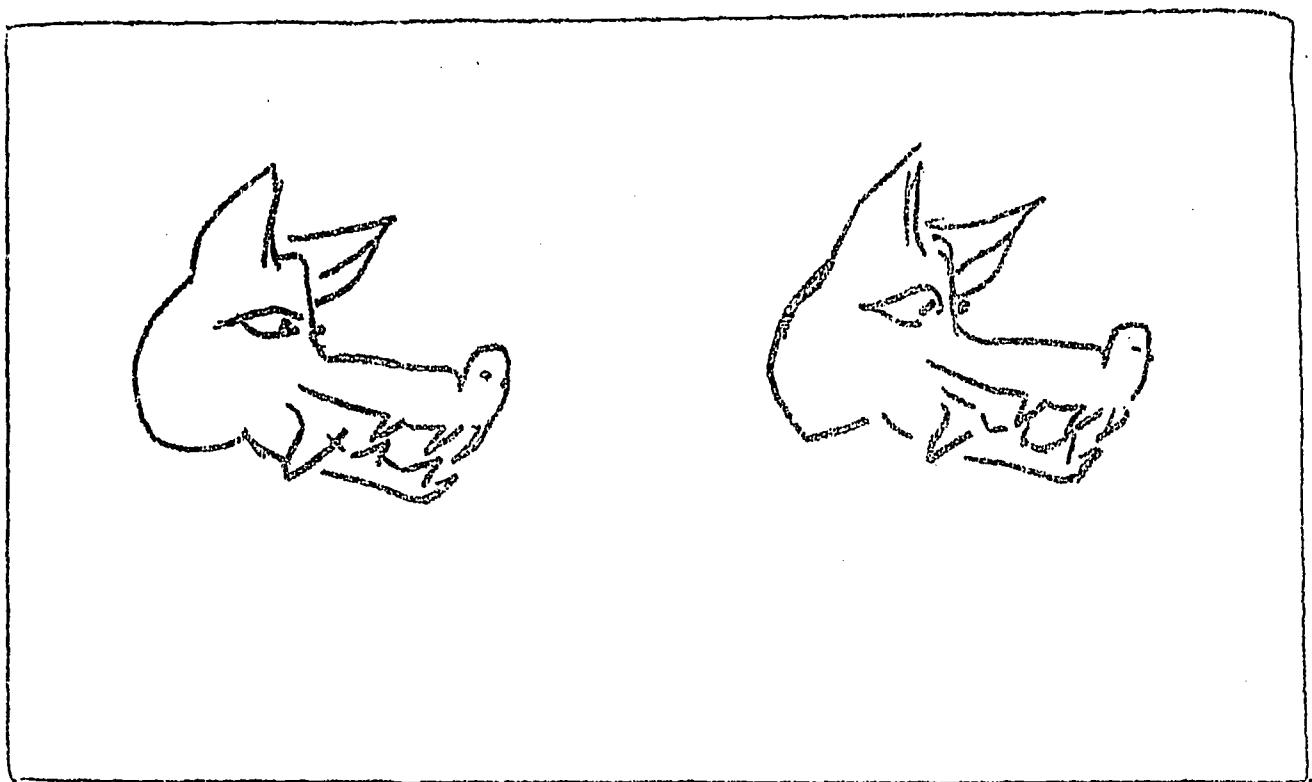




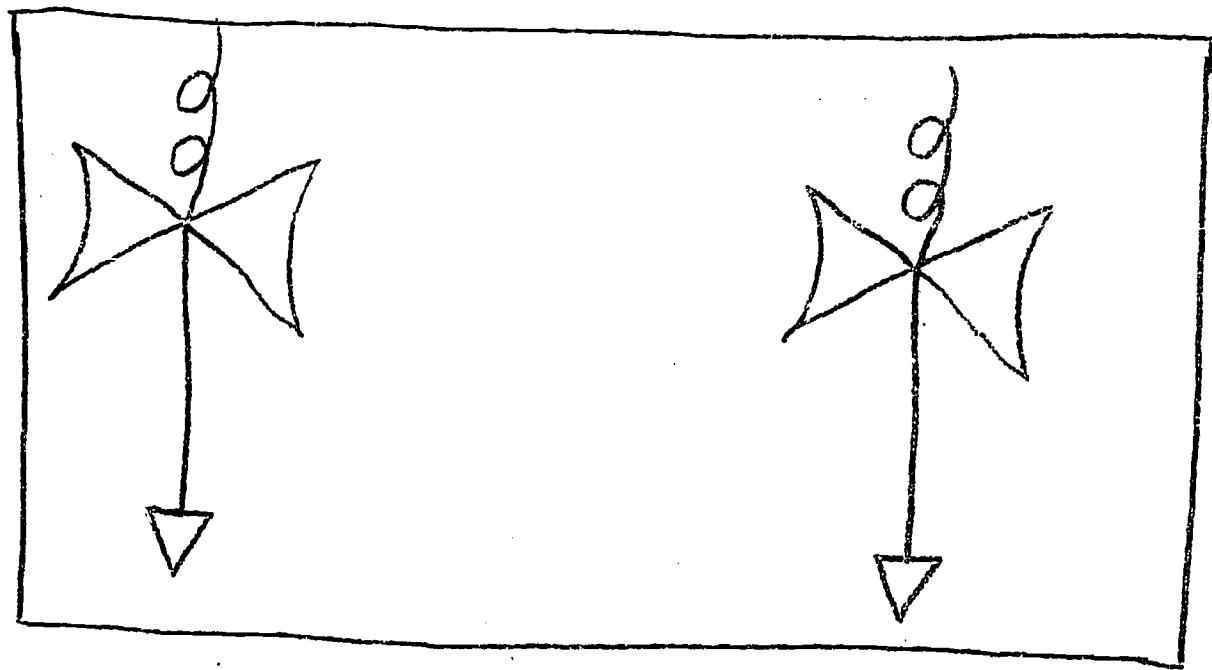
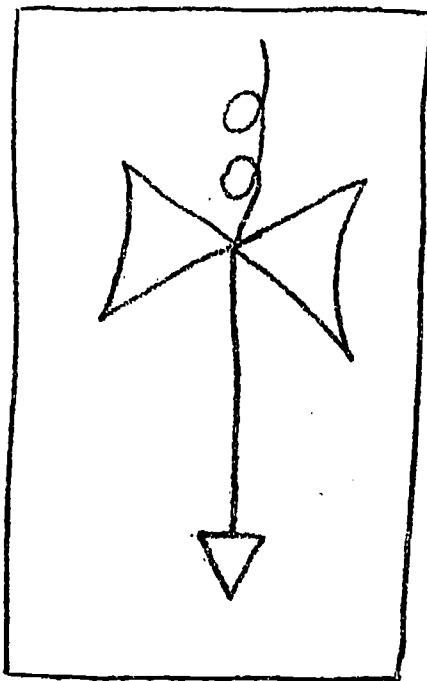
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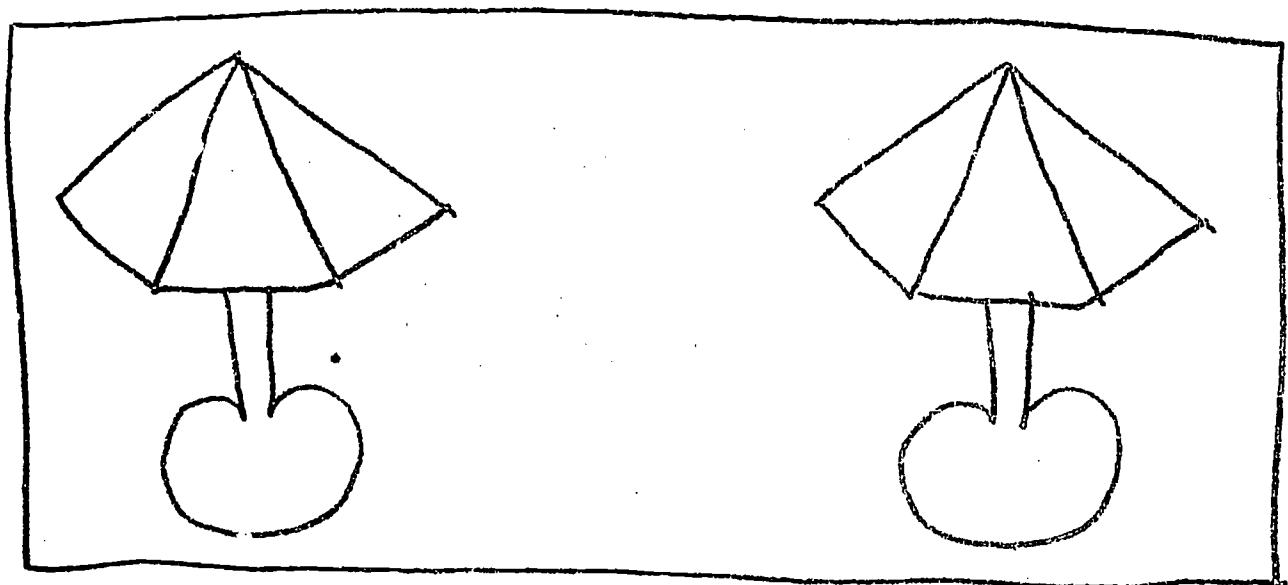
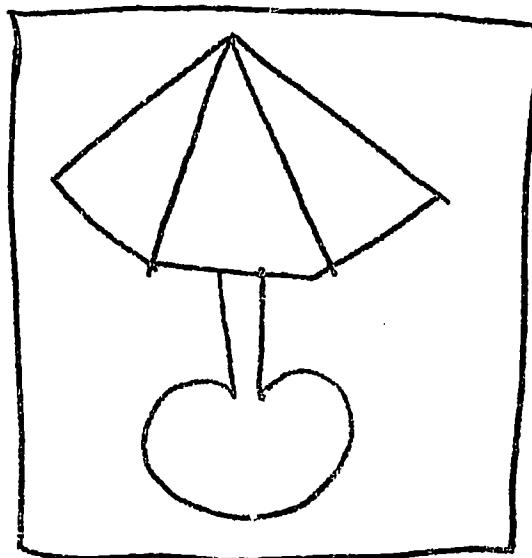


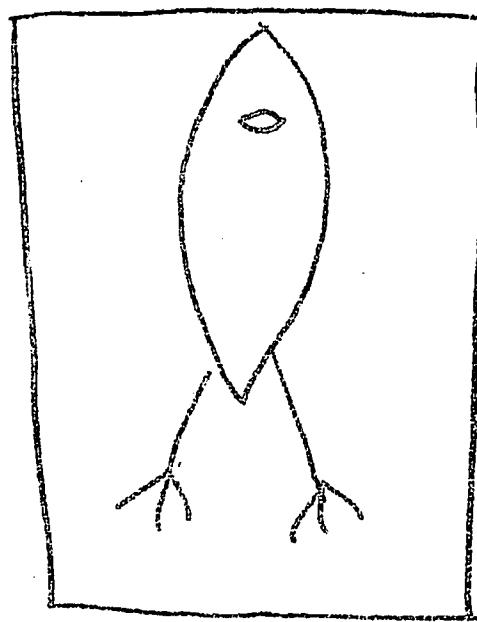
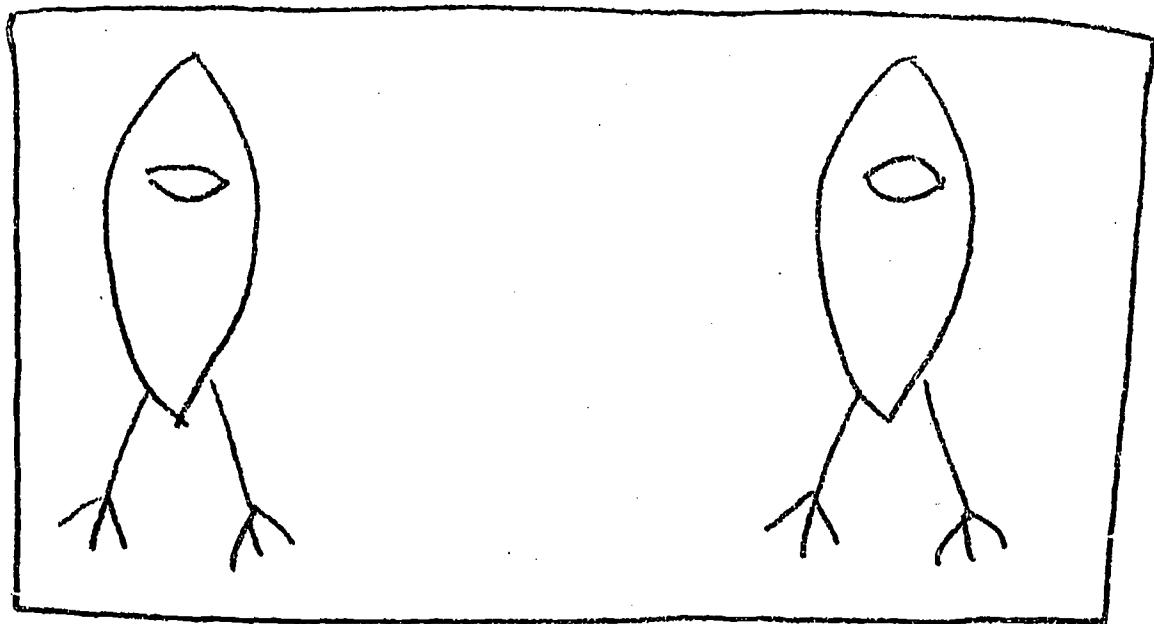


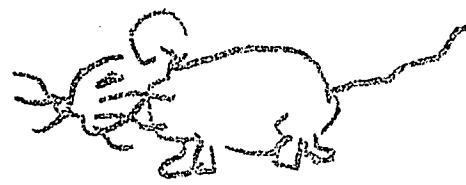
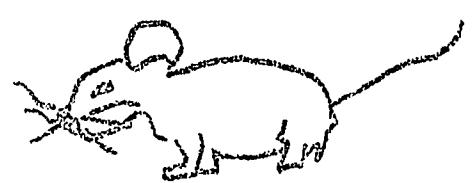
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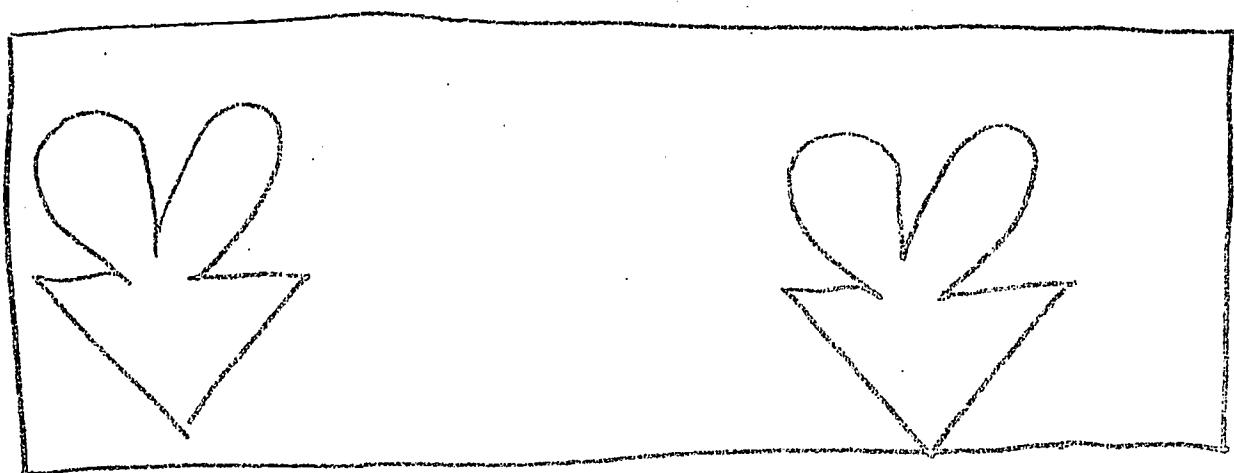
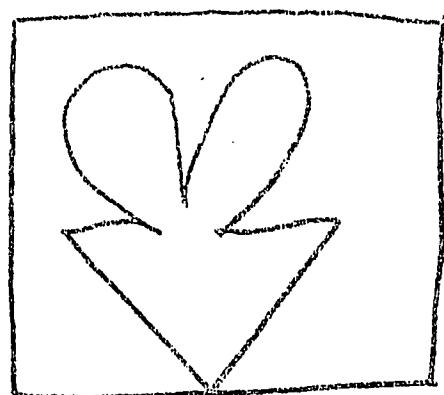
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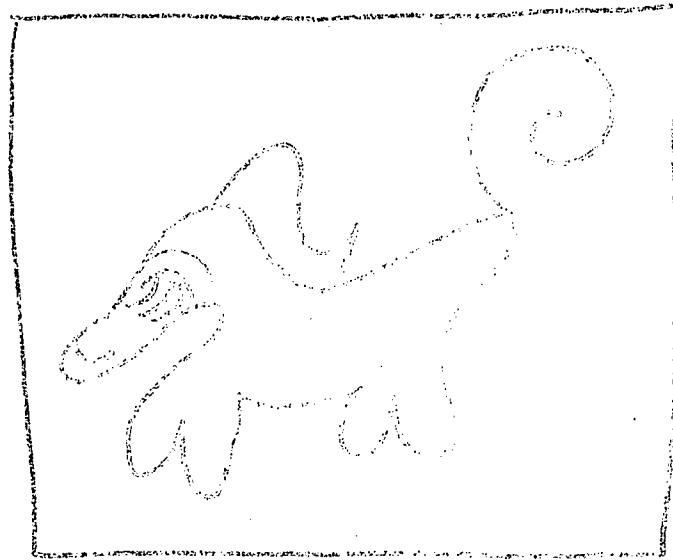
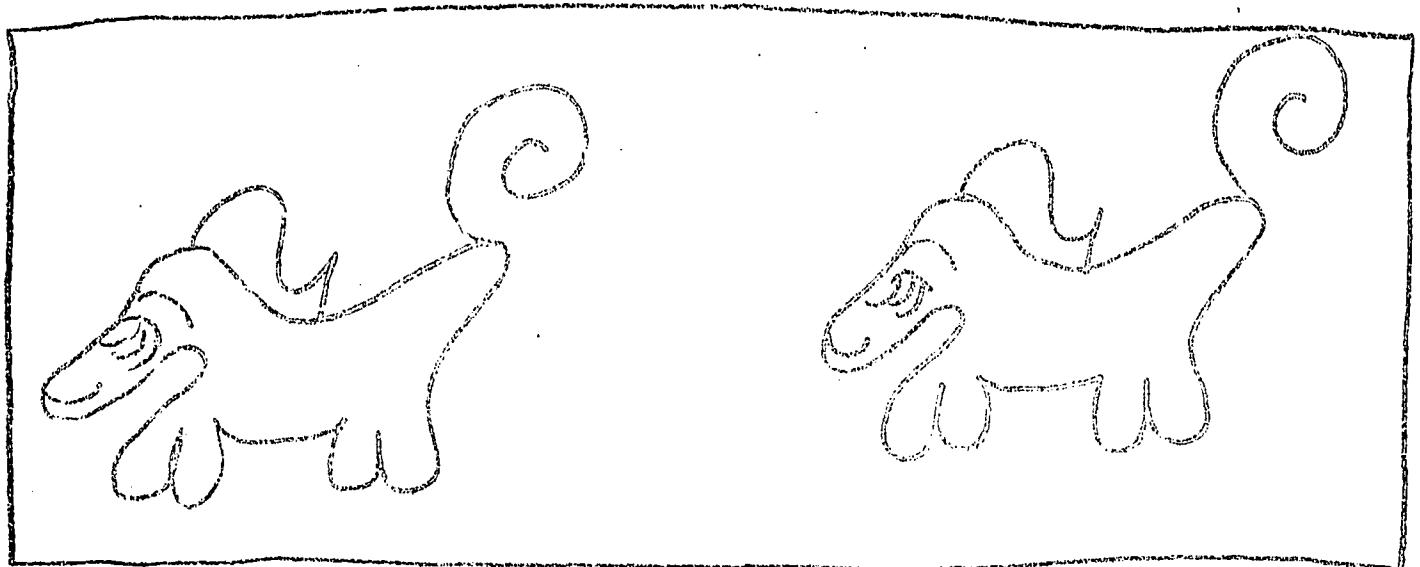




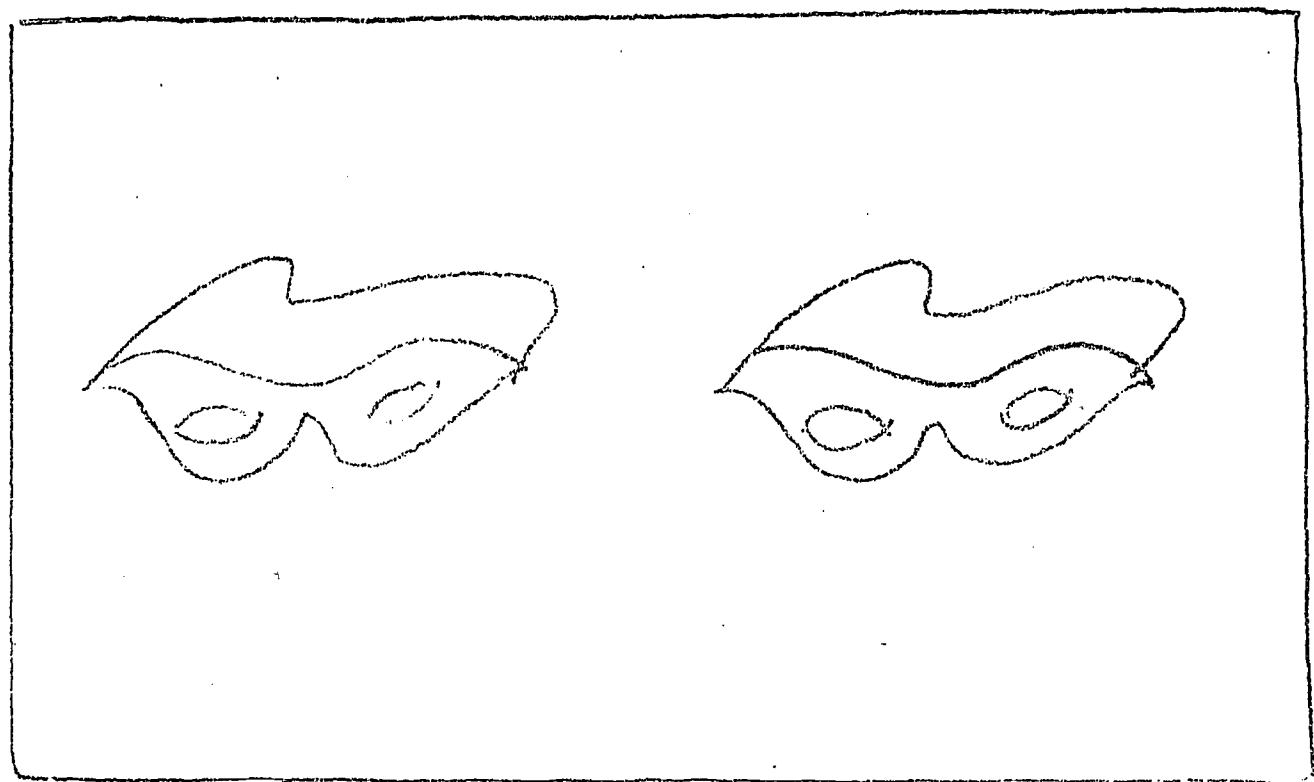
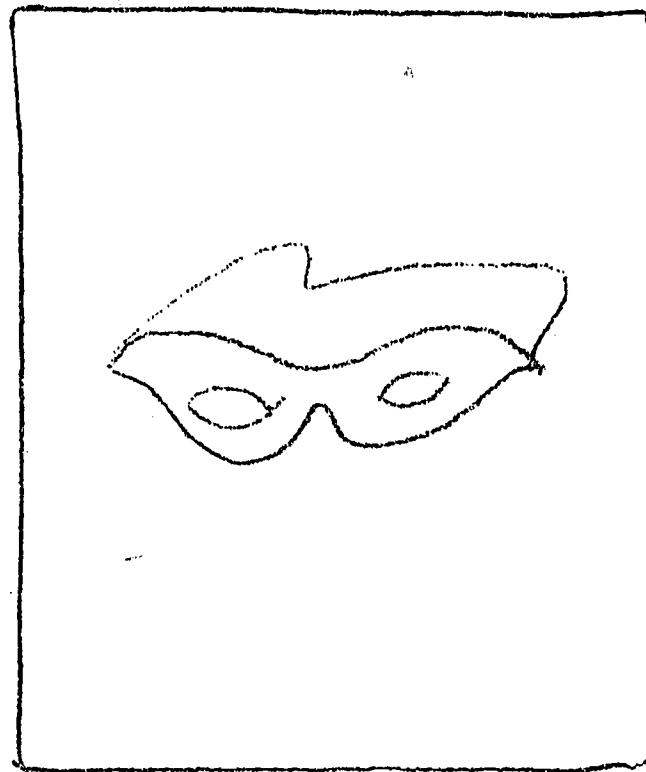
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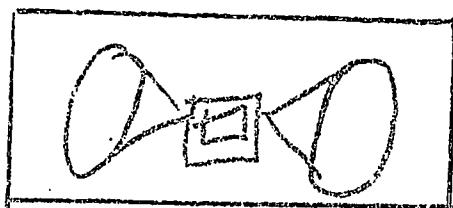
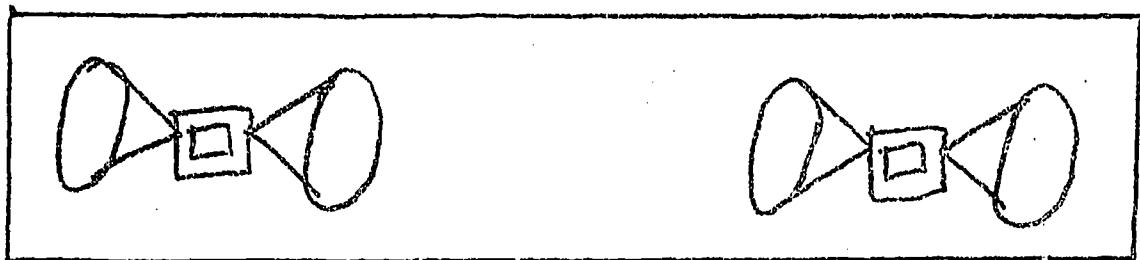
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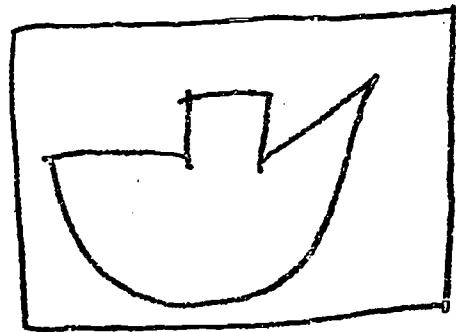
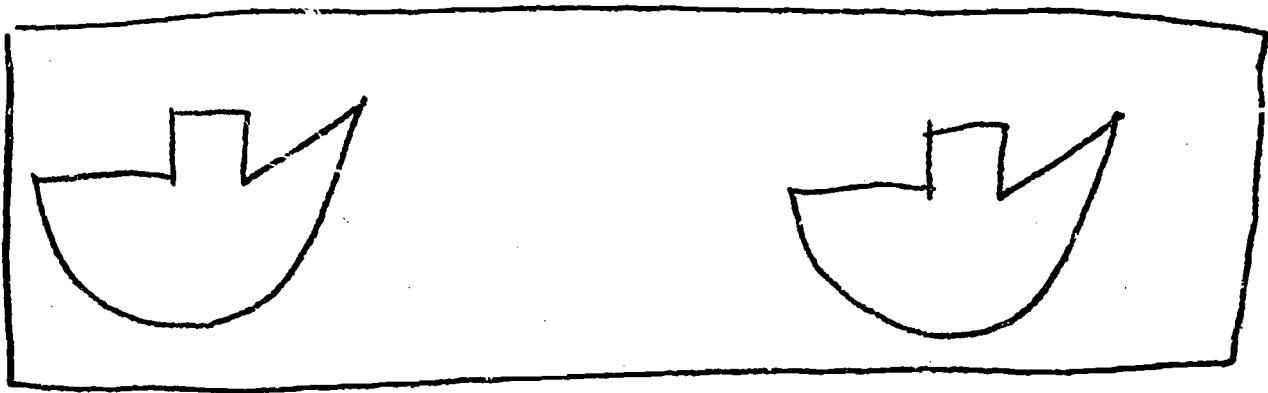


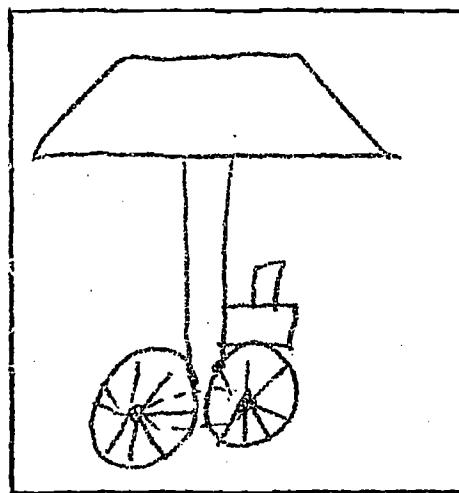
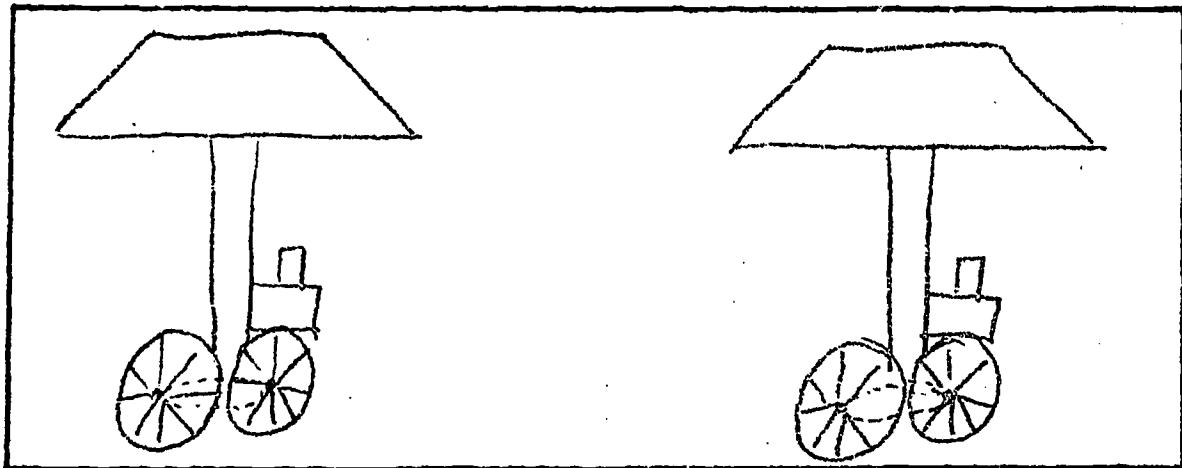
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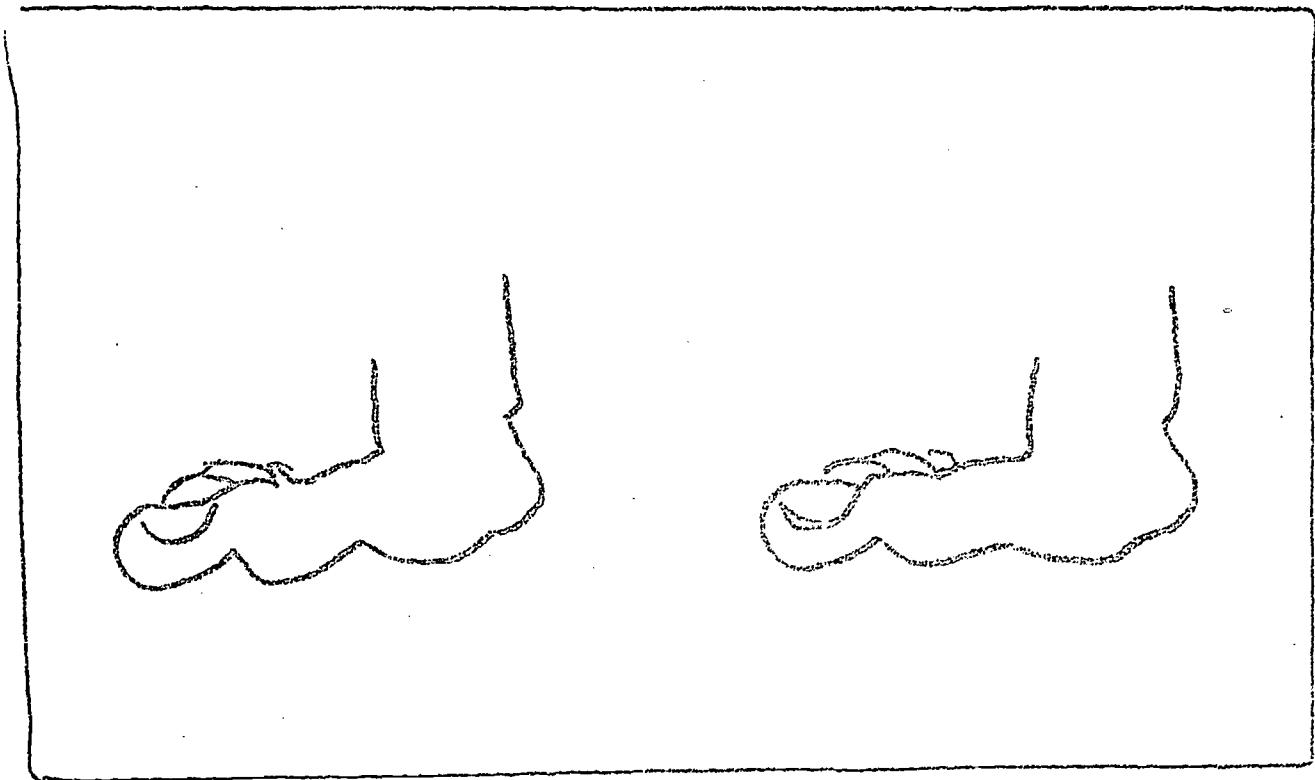
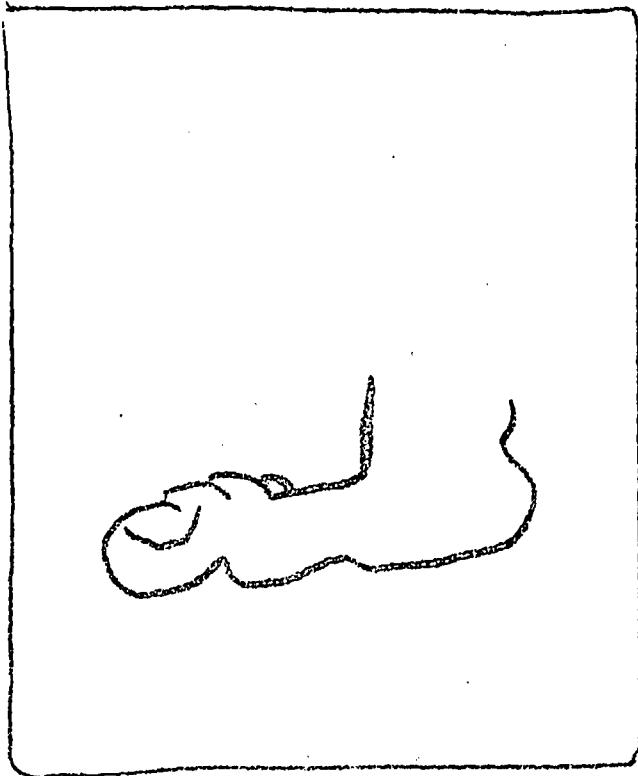


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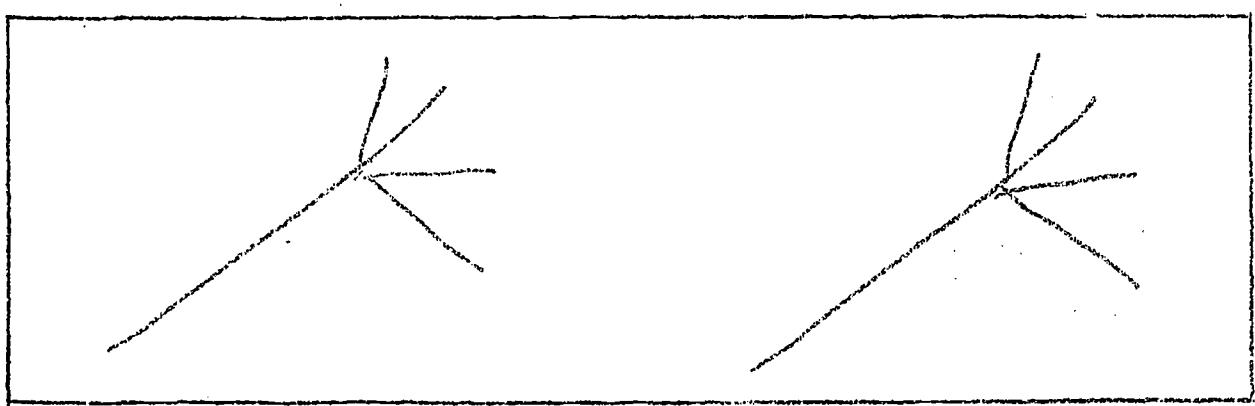
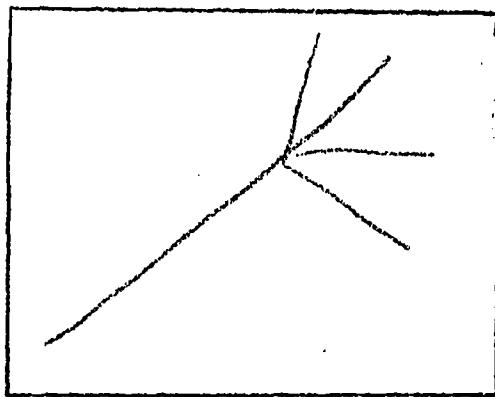


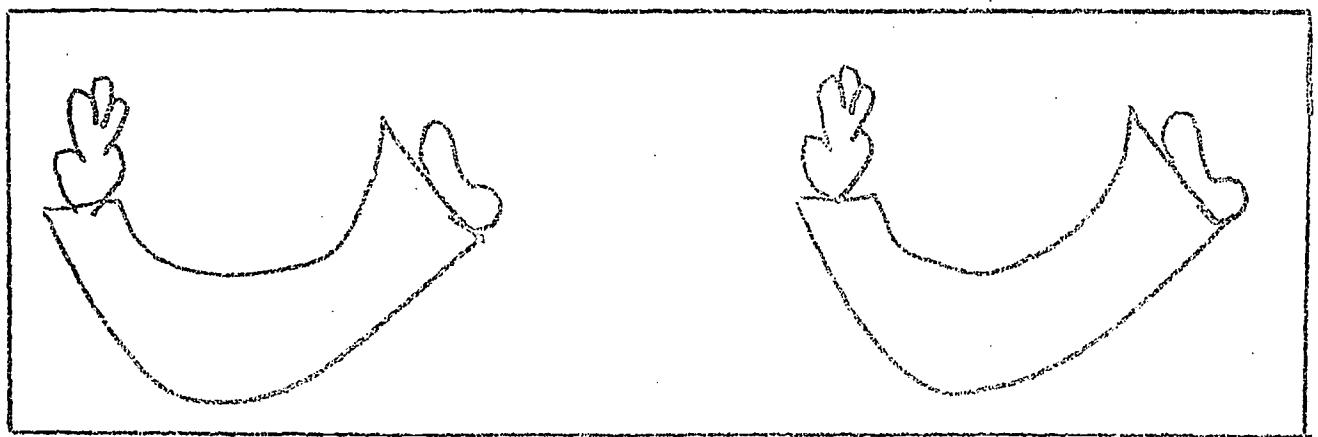
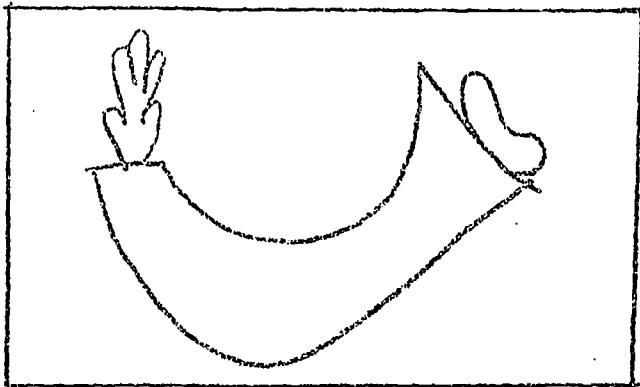




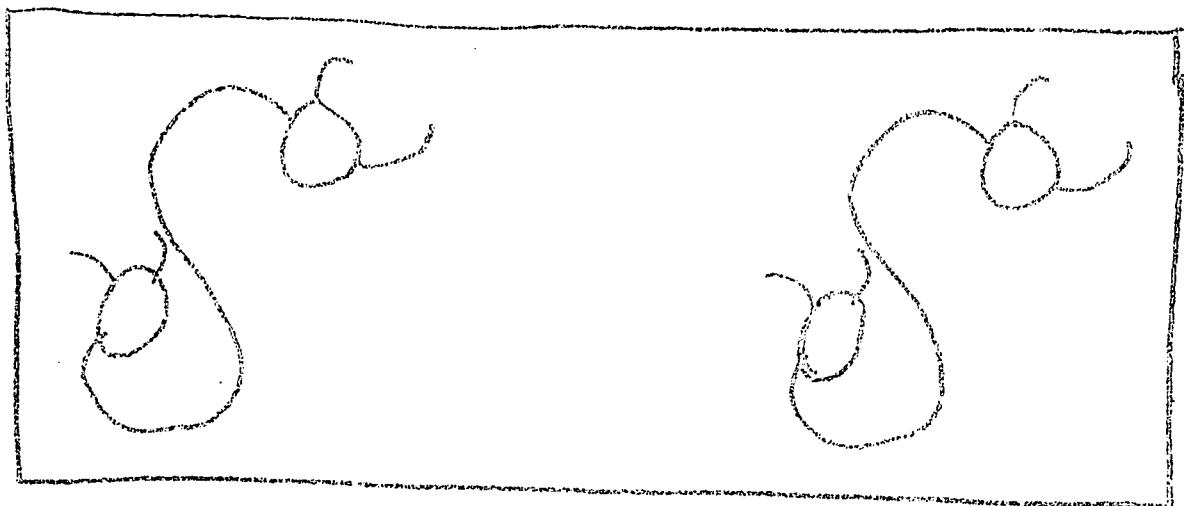
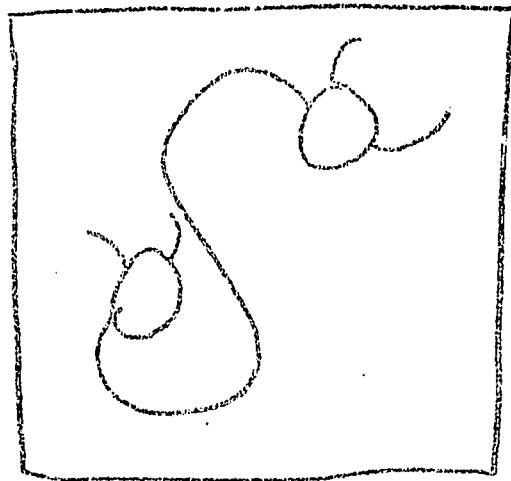


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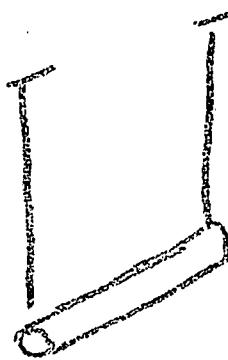
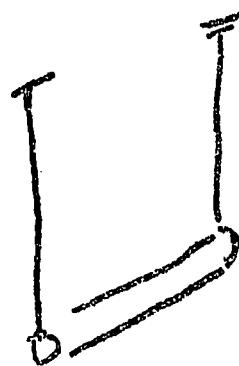
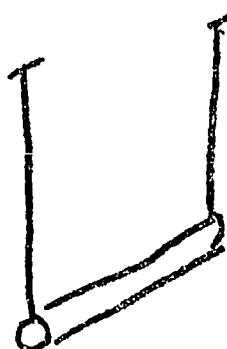




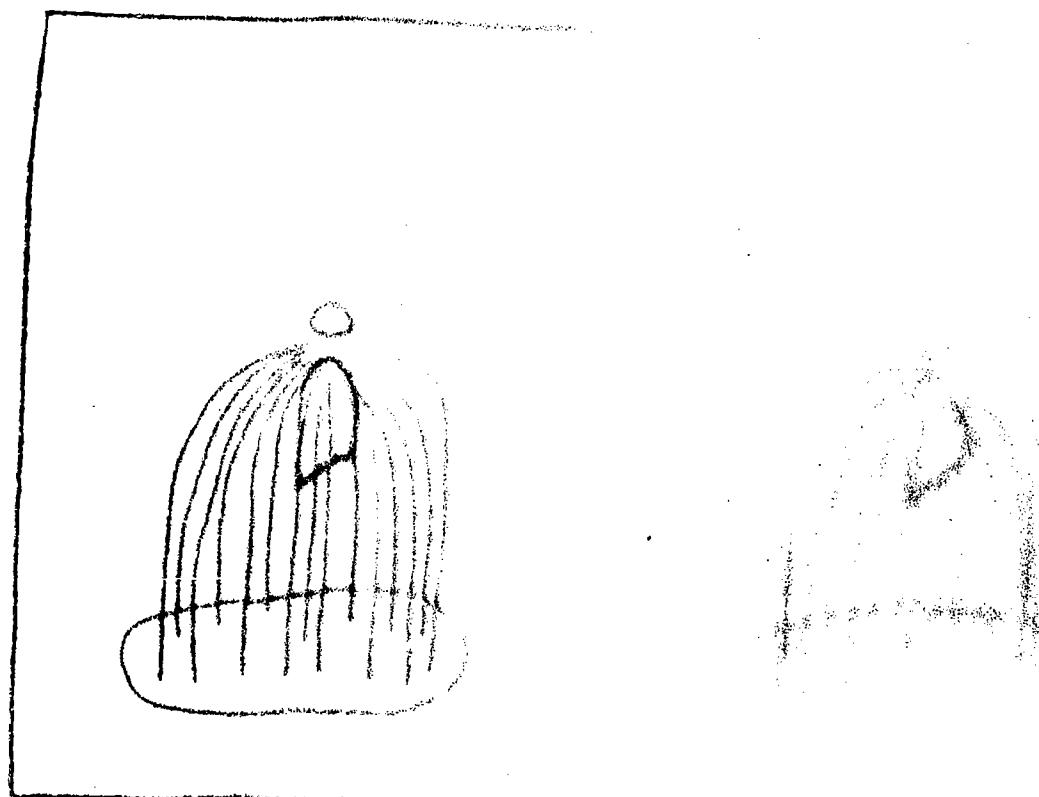
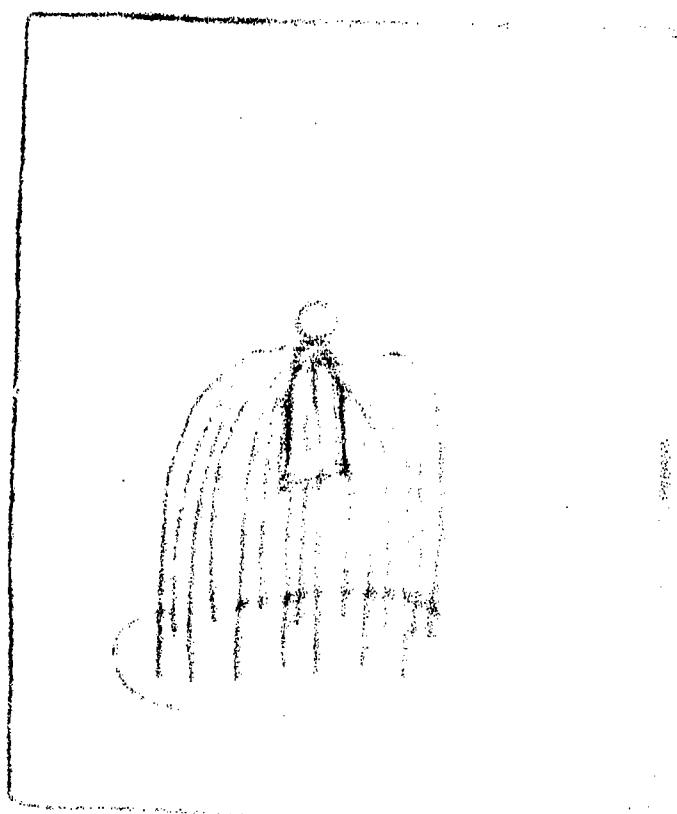
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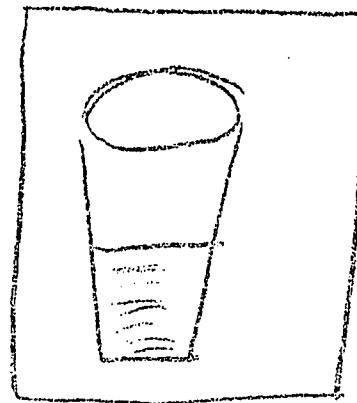
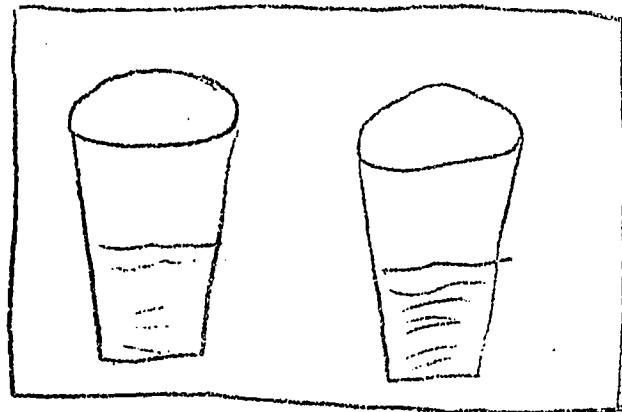
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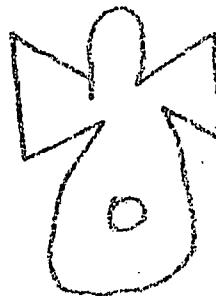
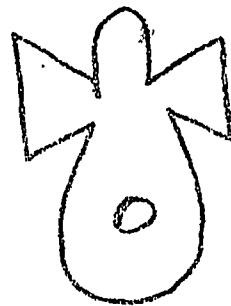
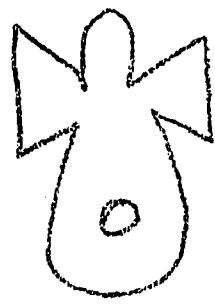
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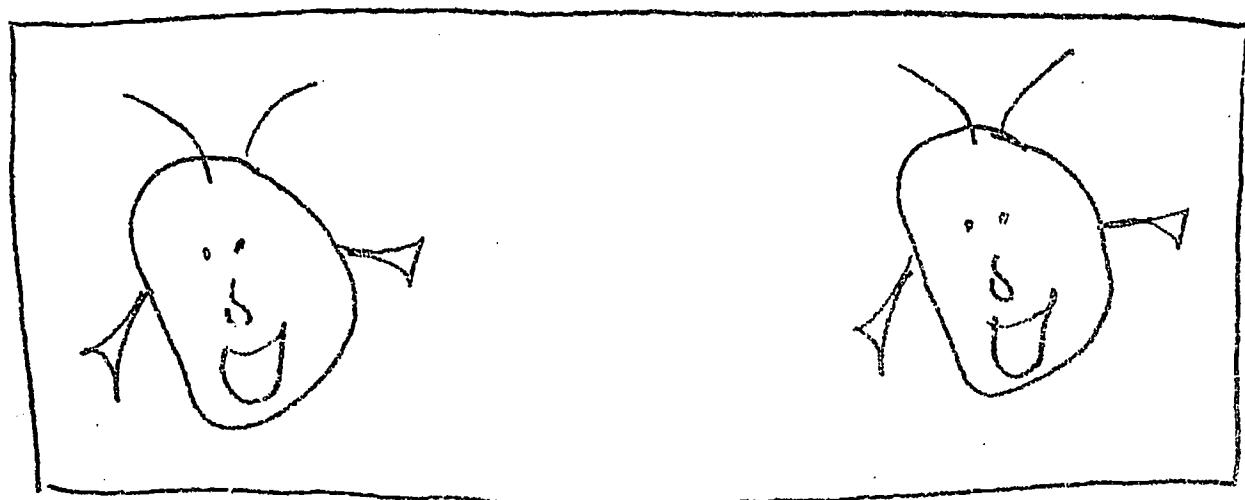
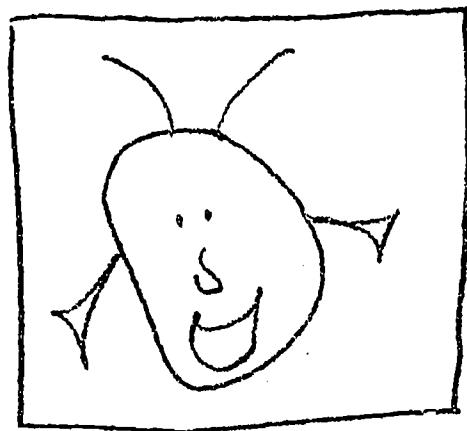


26
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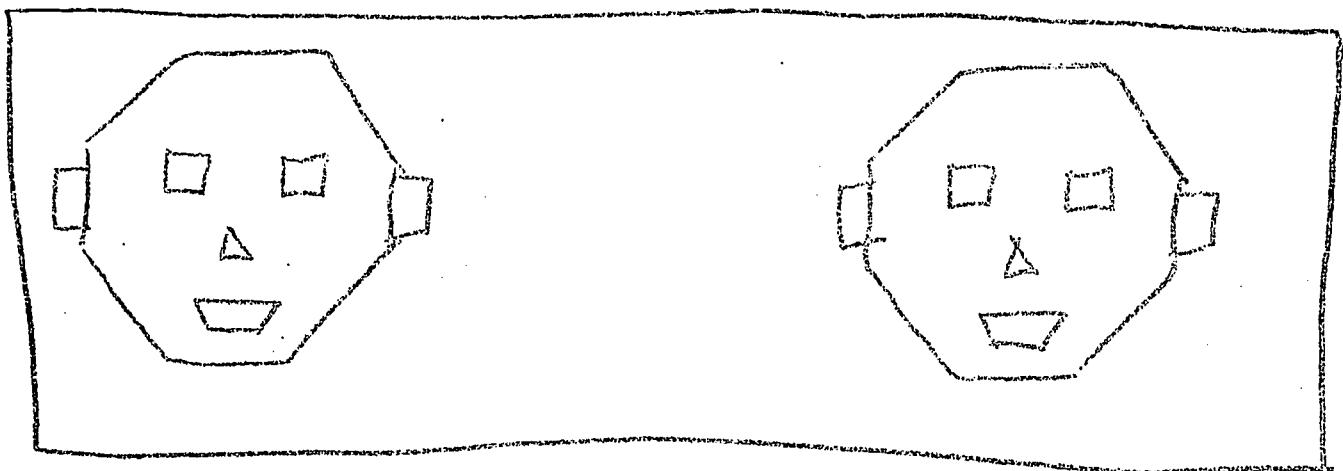
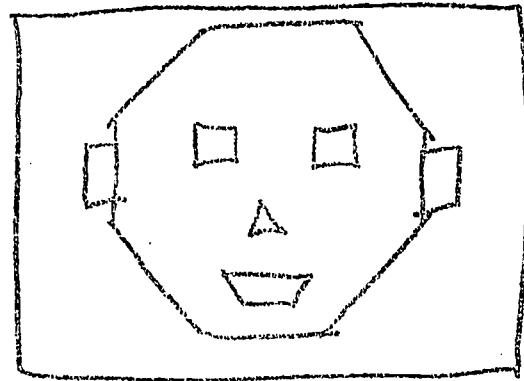


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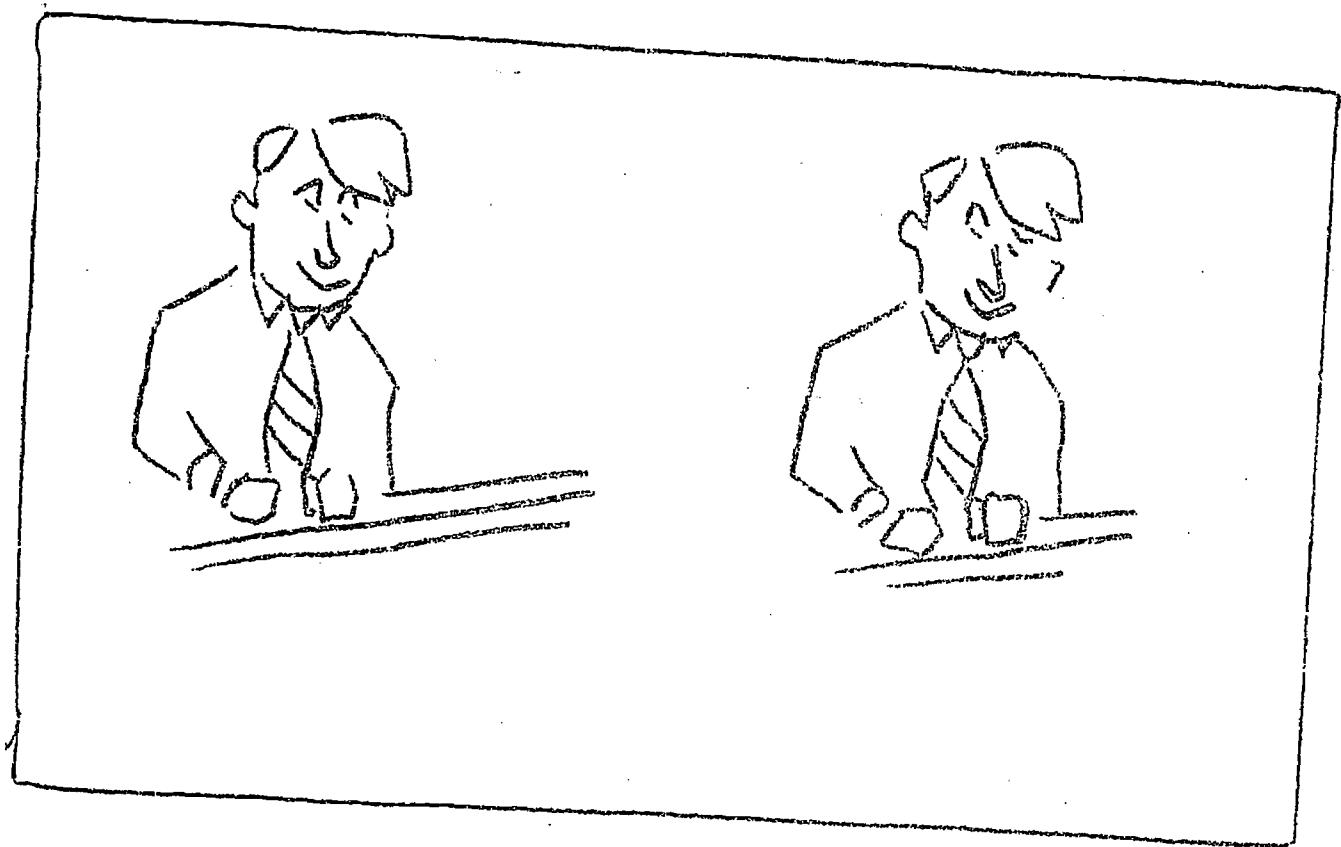


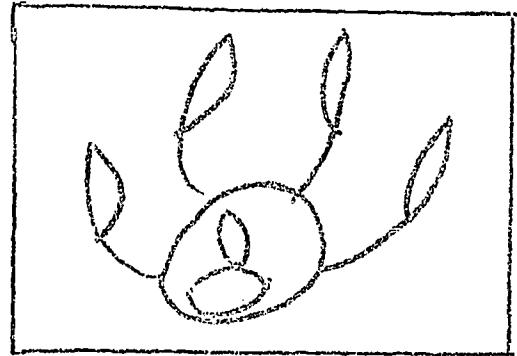
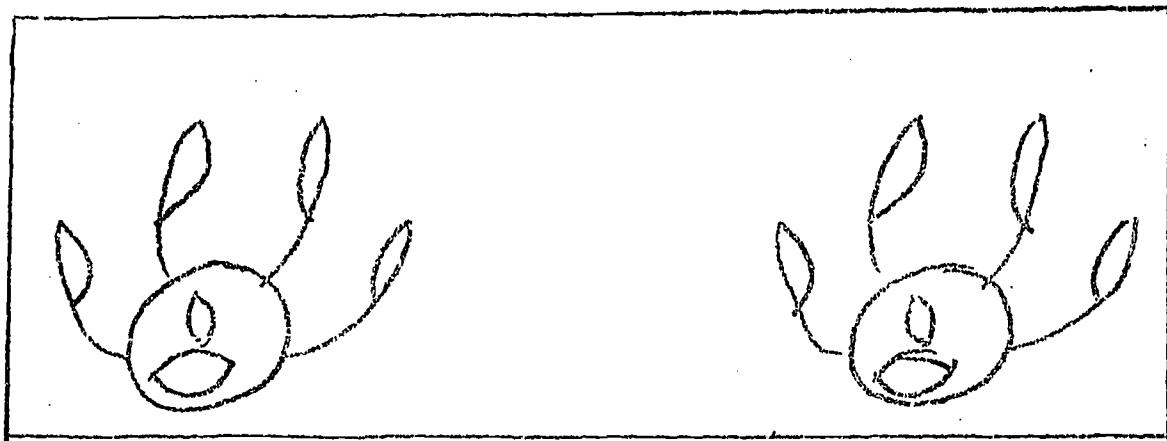


22
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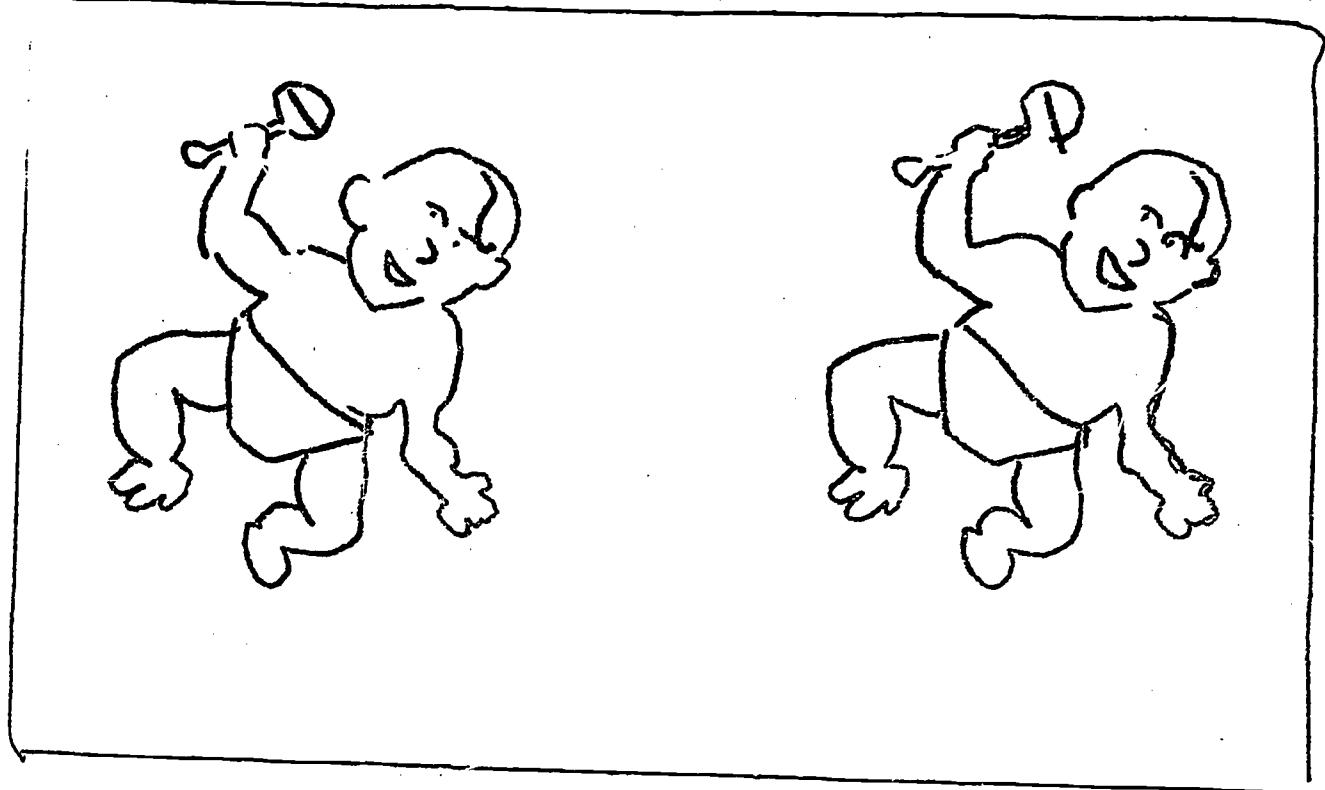


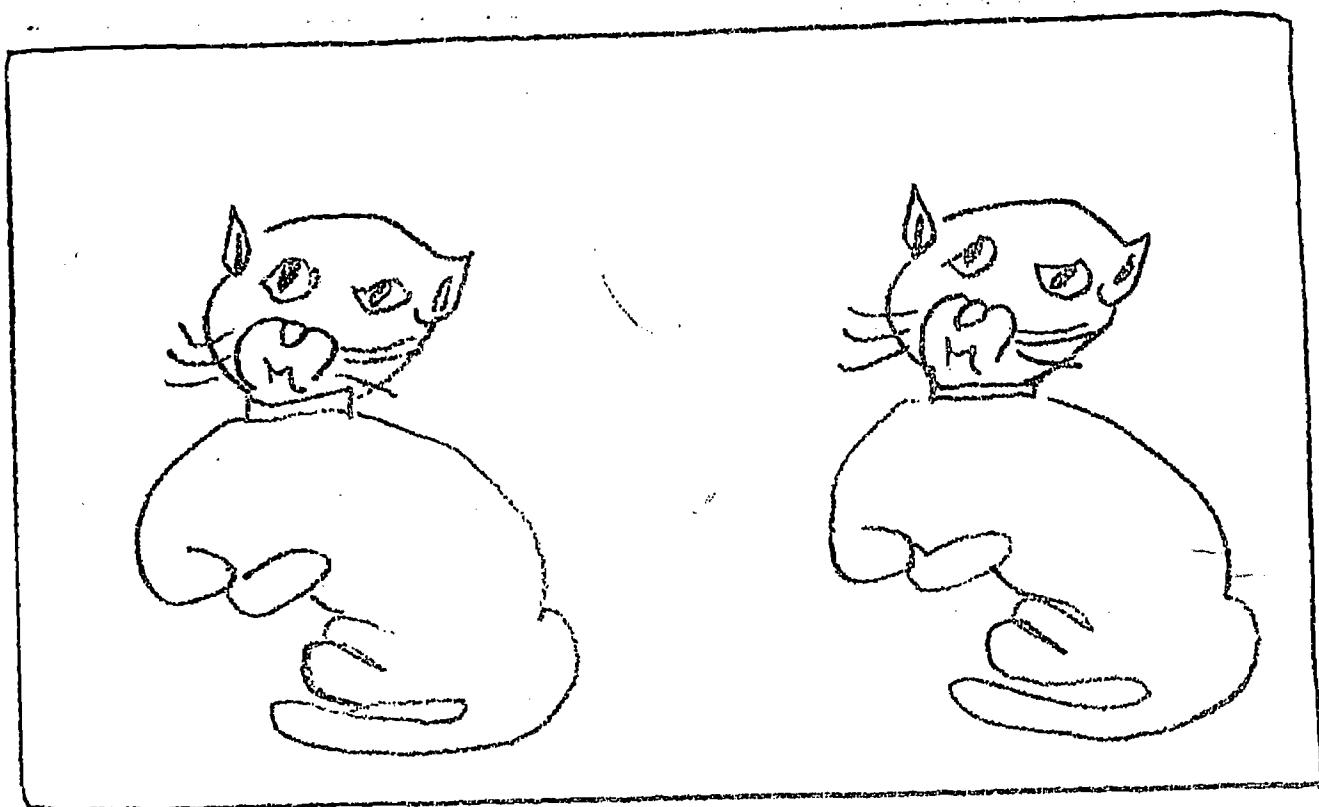
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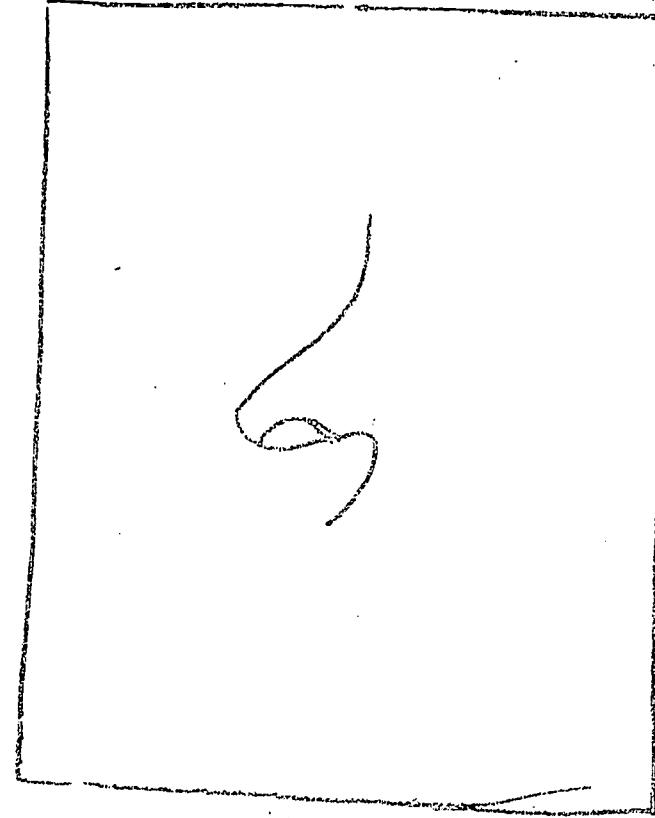
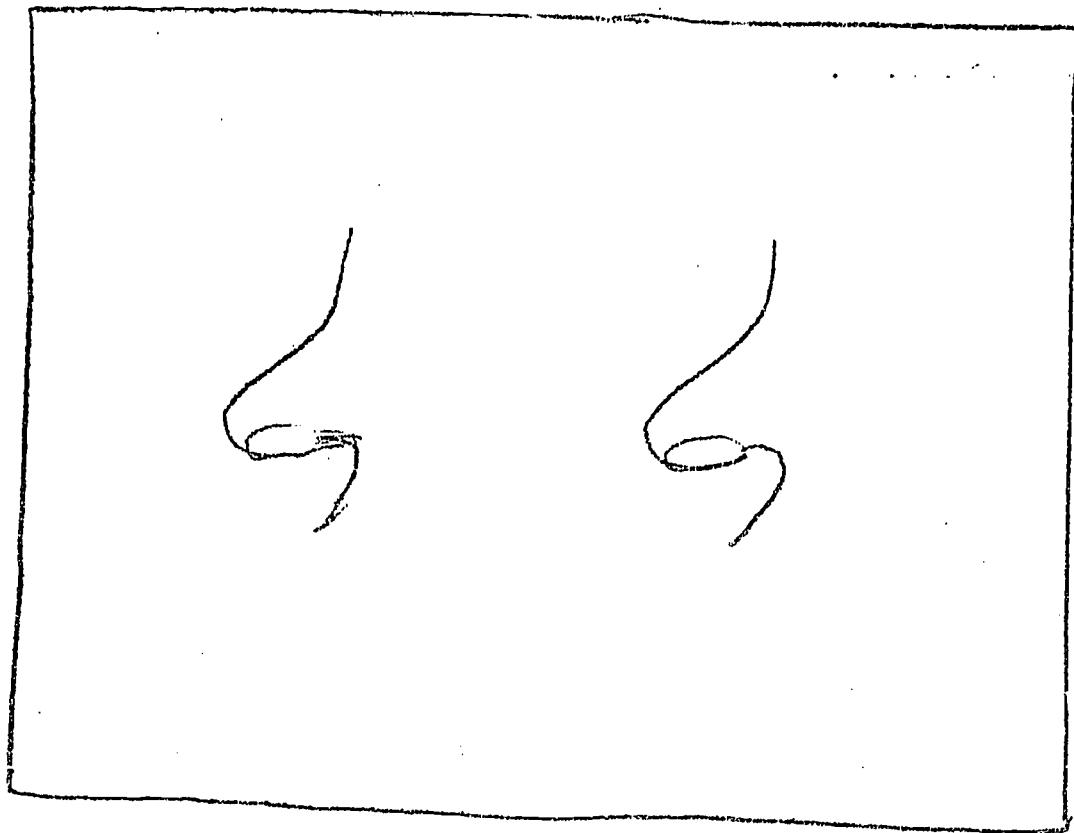


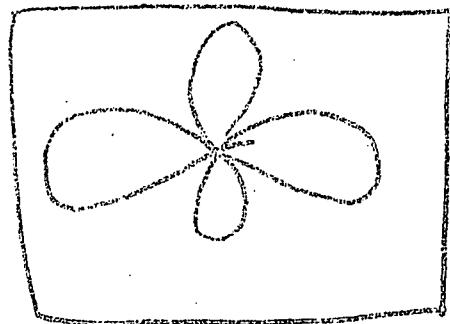
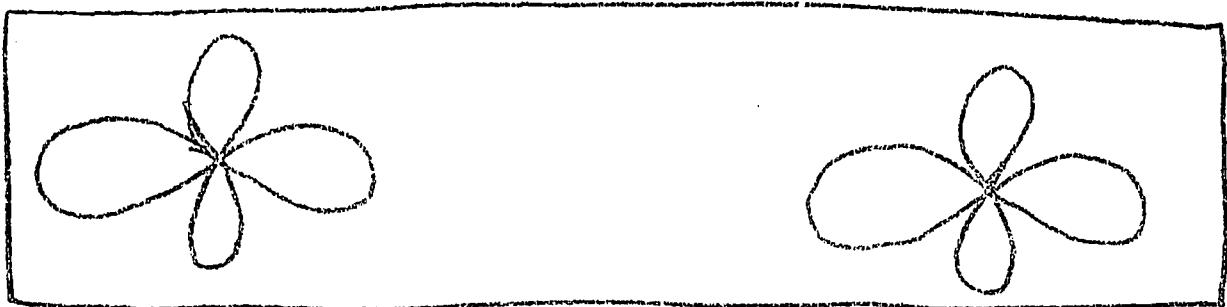


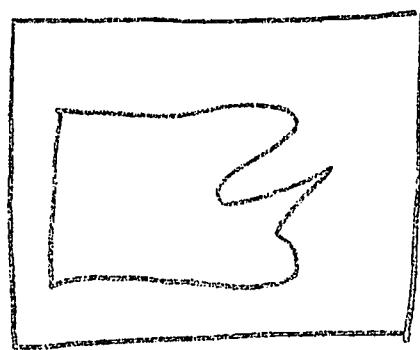
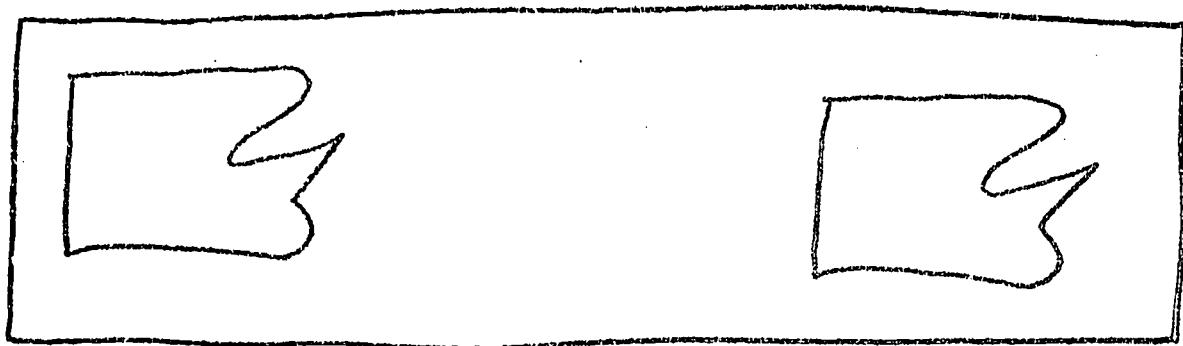
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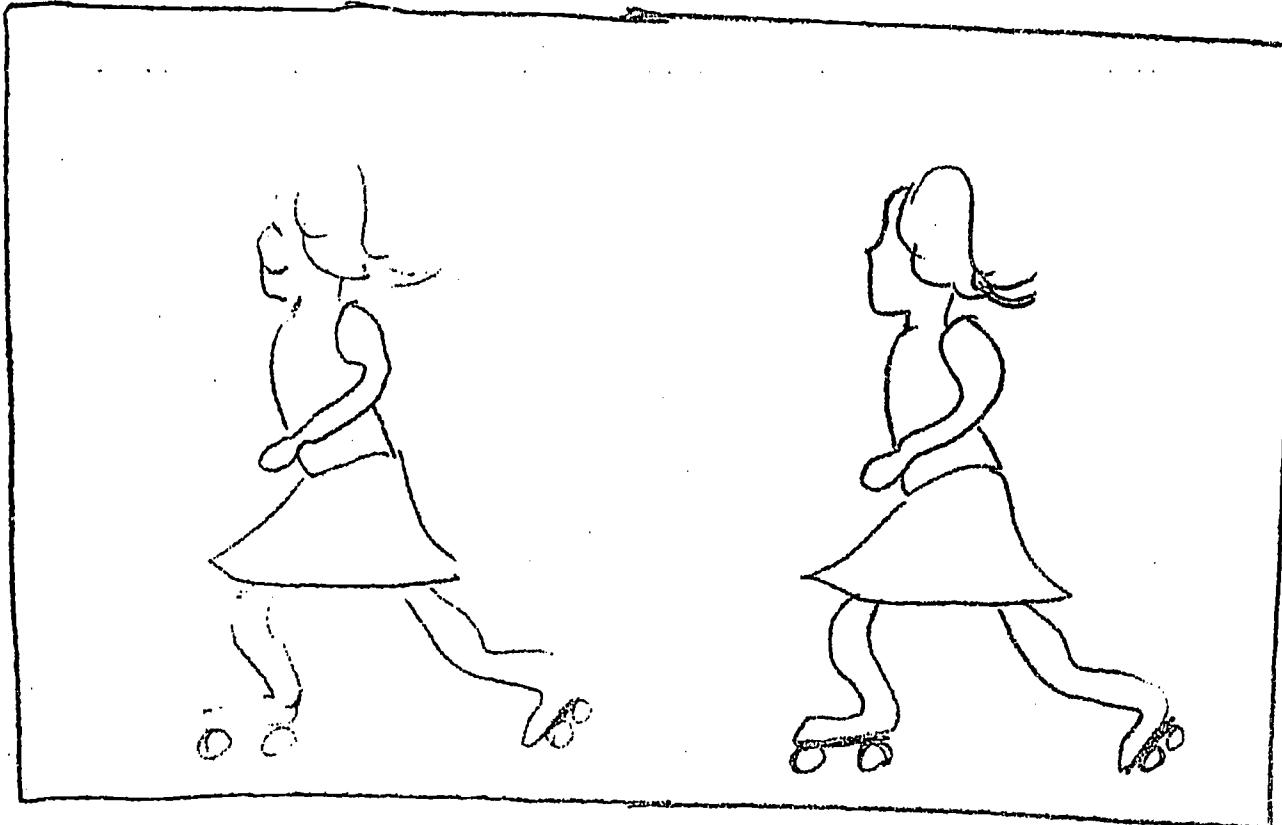




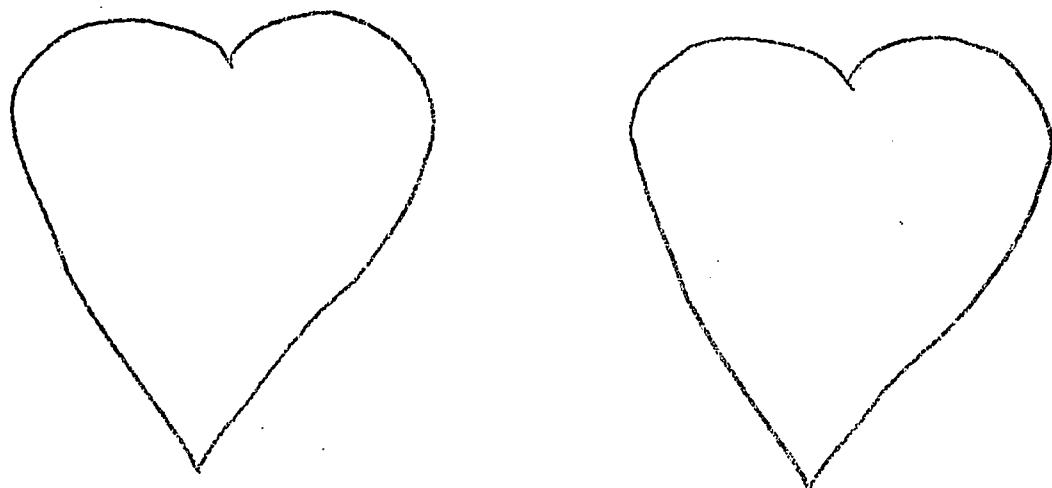
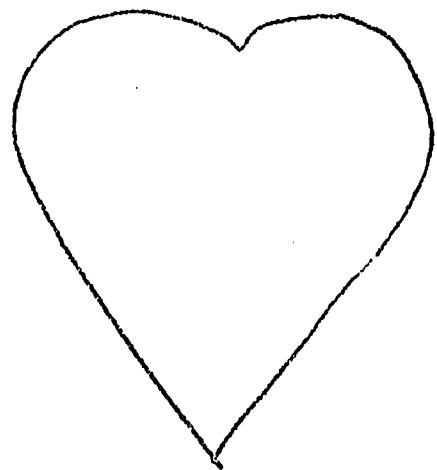




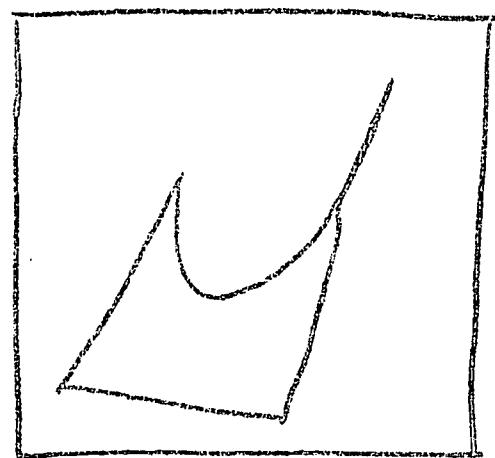
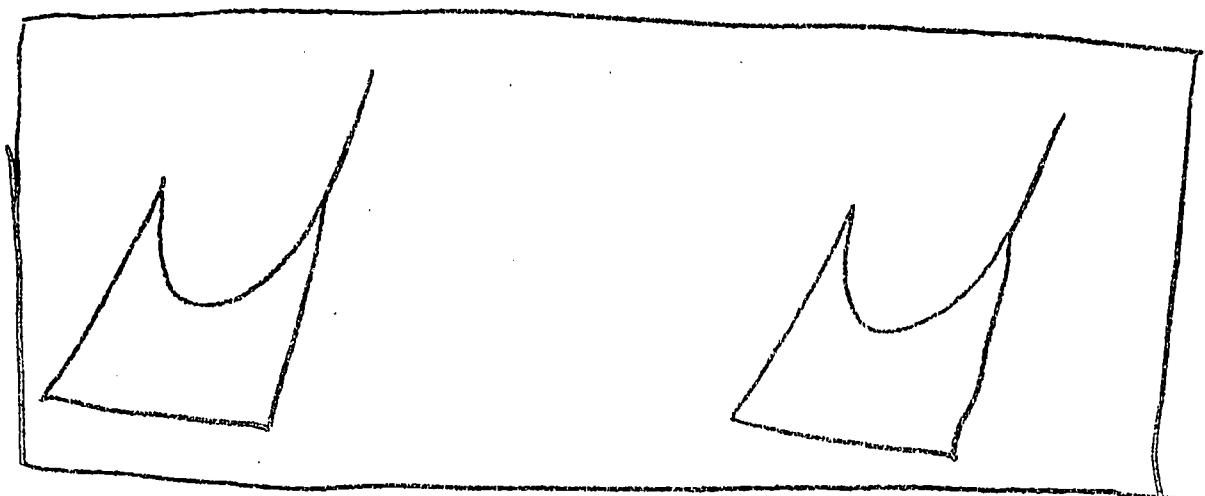


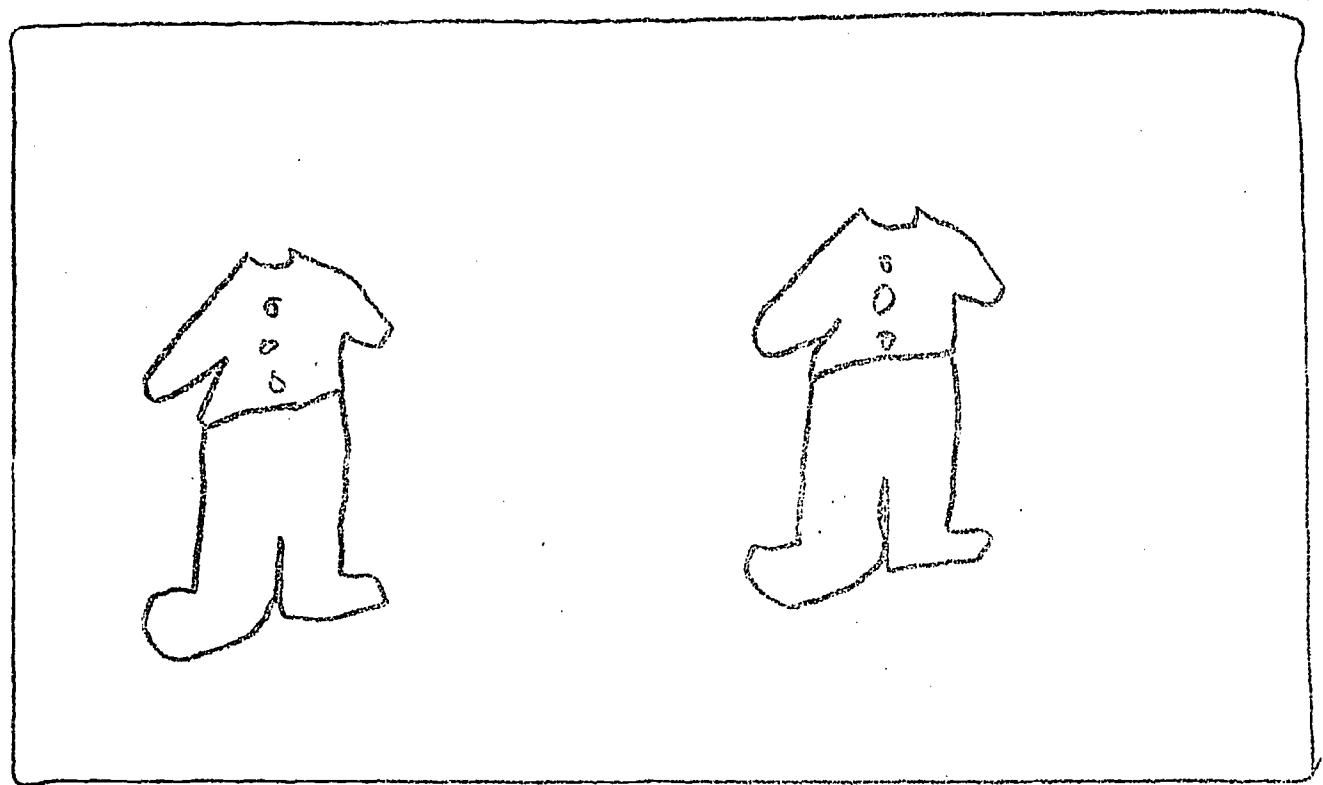
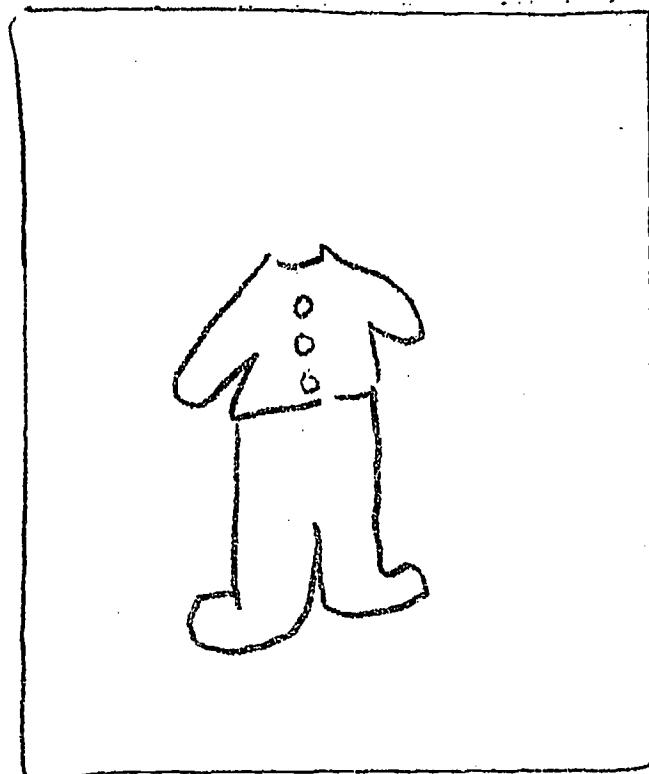


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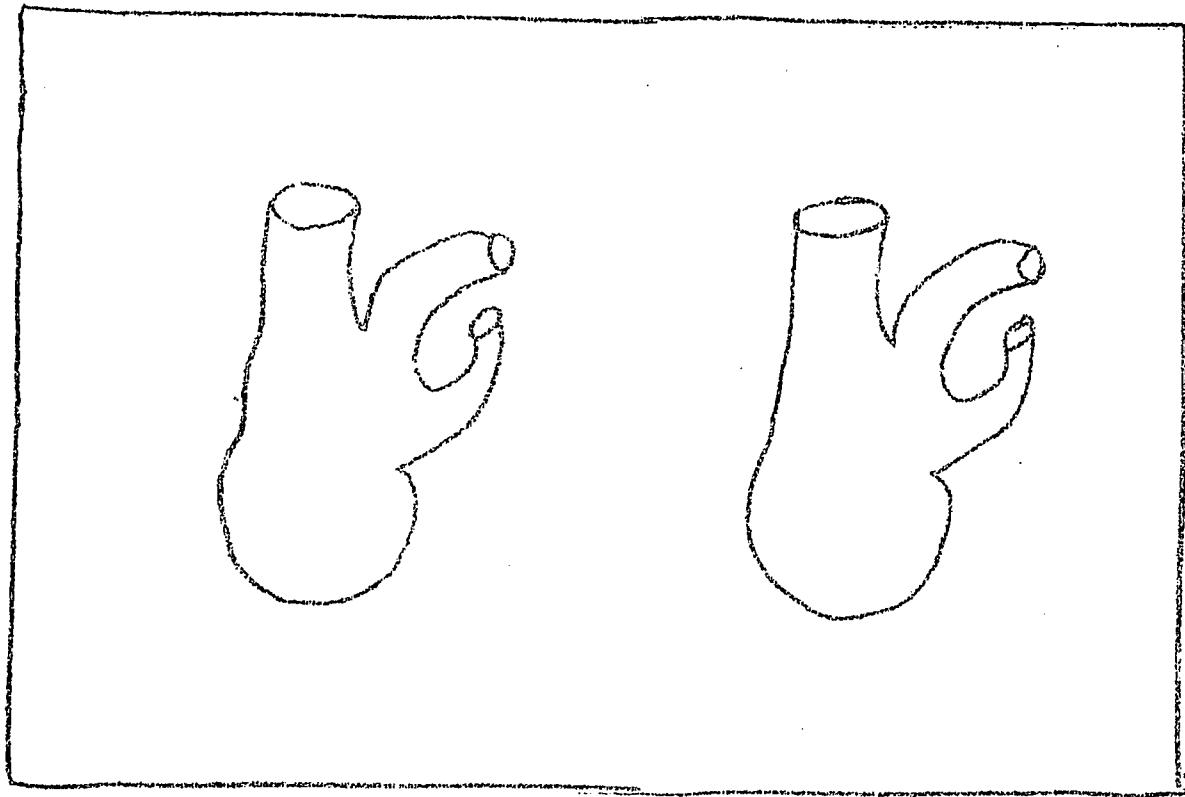
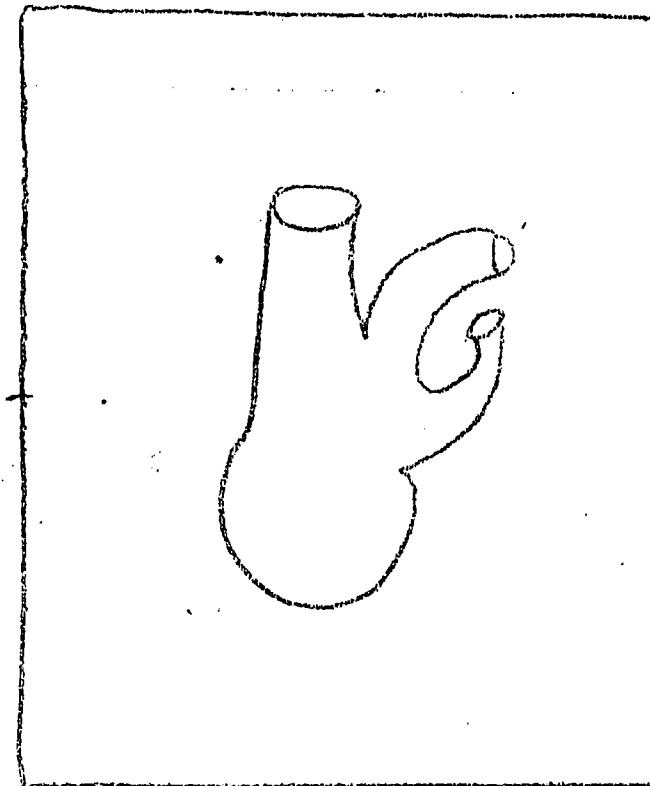


46
OP

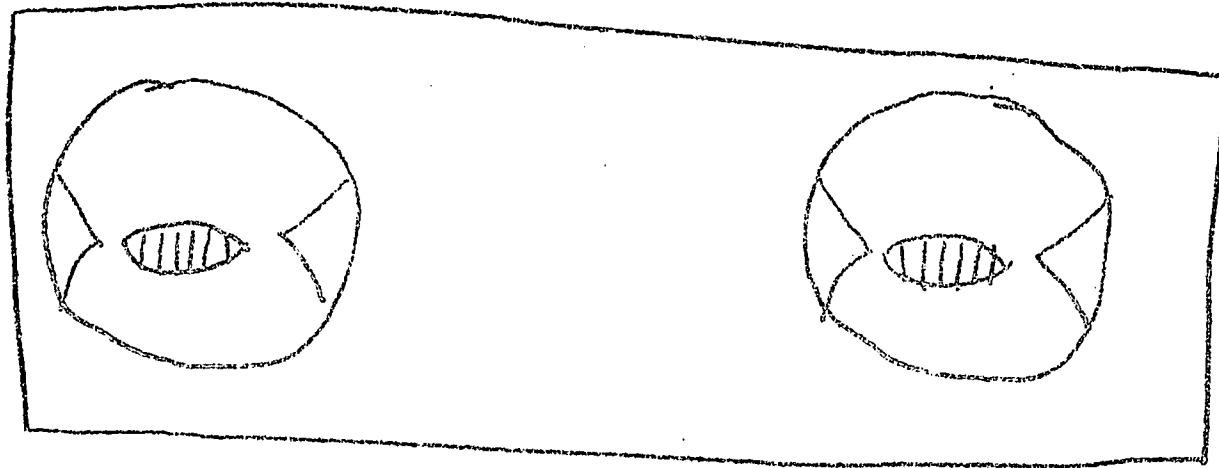
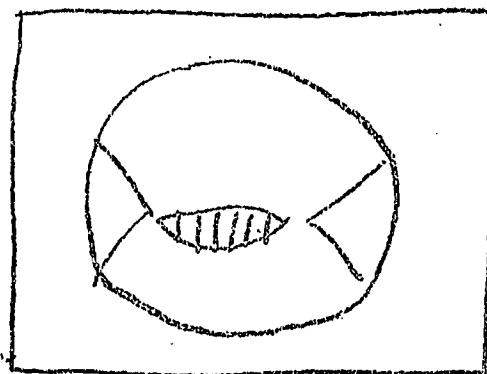




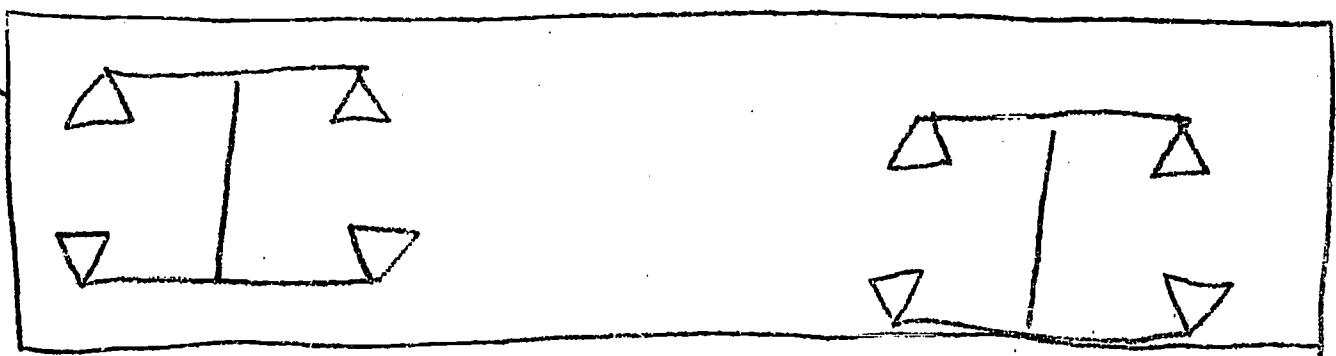
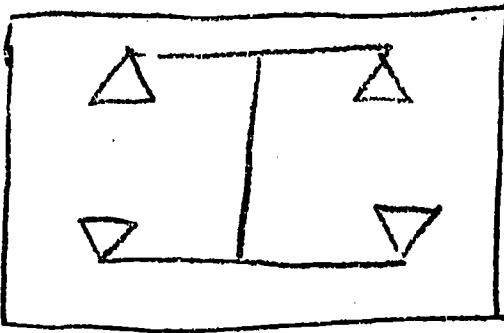
Test 2 - Production Task



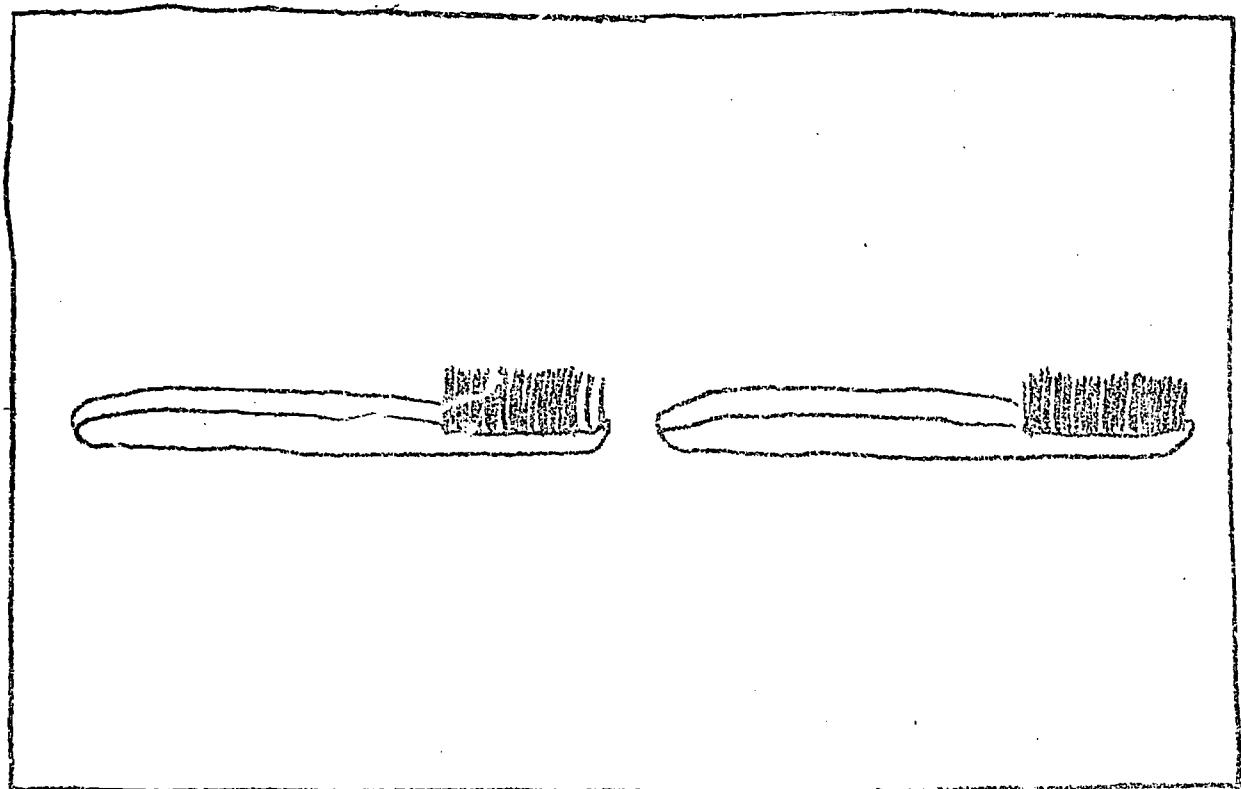
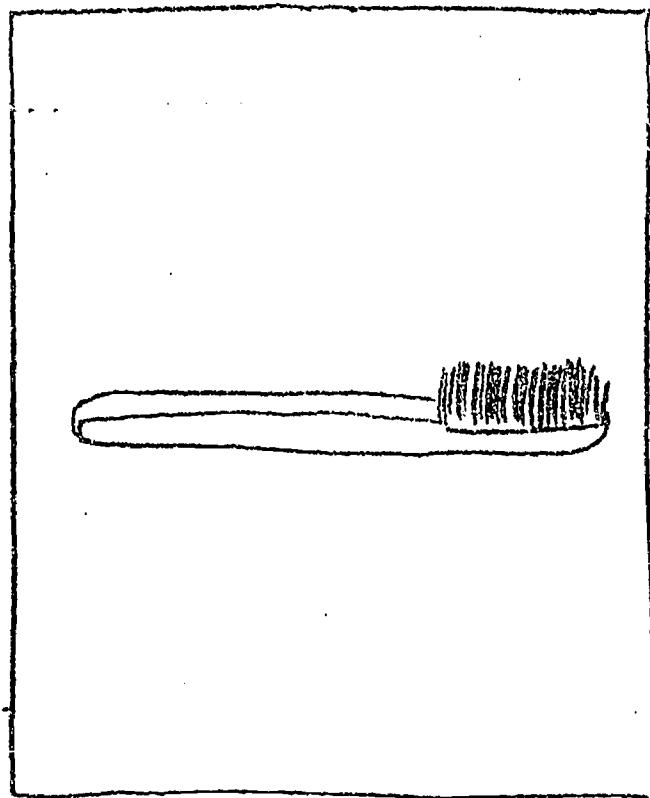
96
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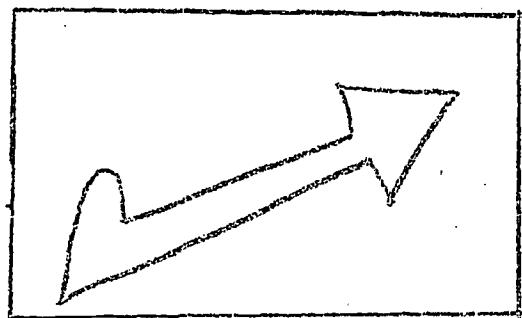
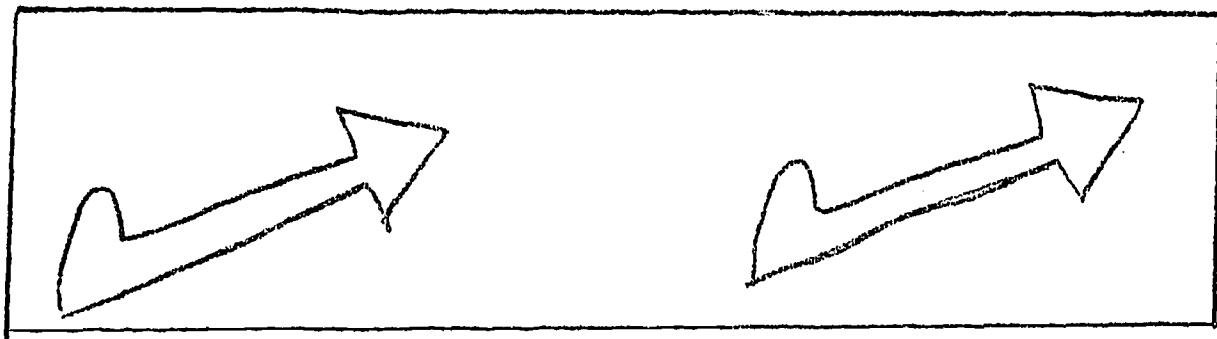


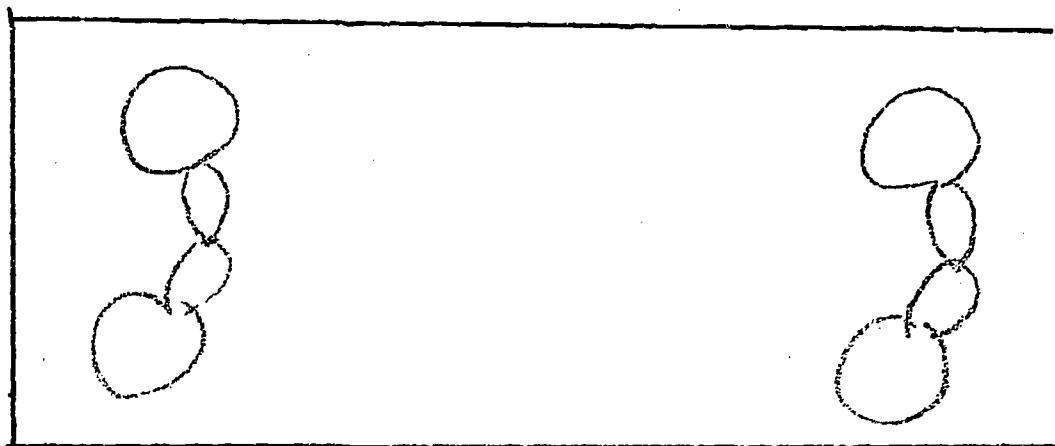
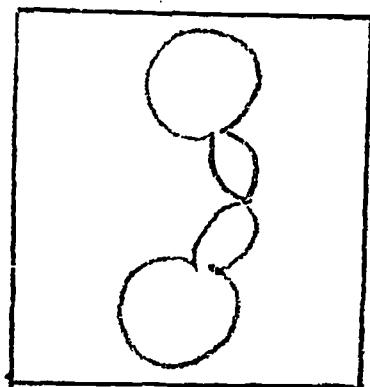
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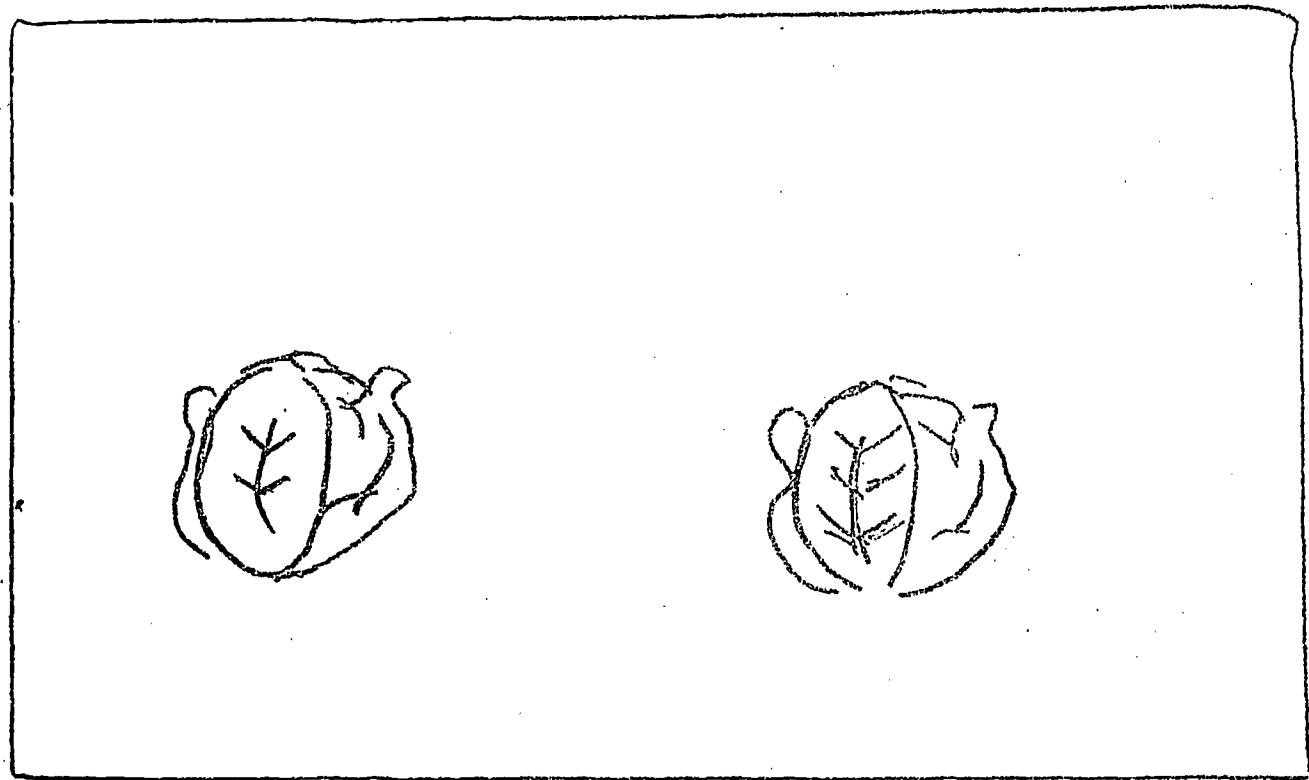
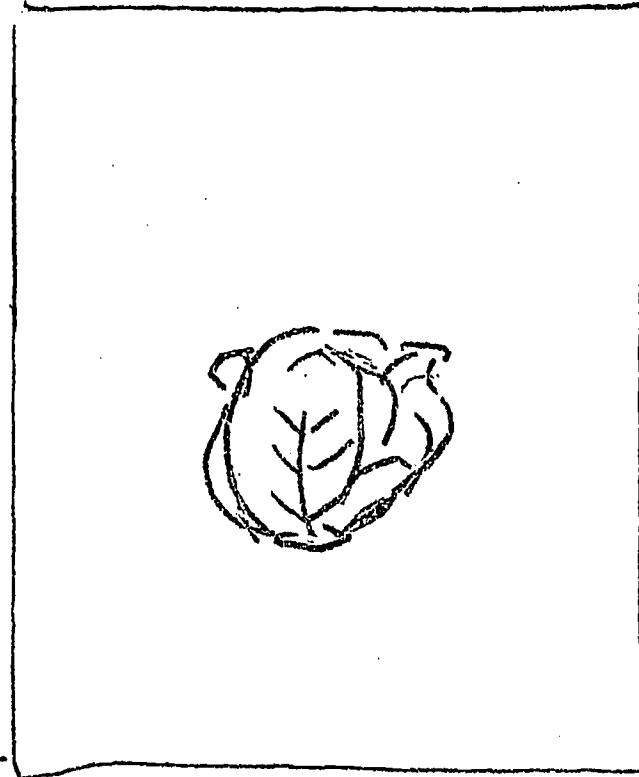


28
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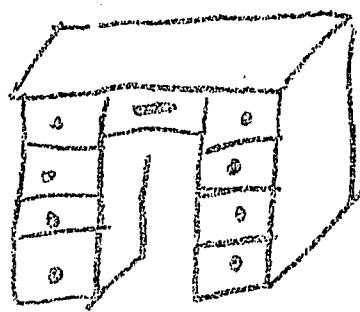
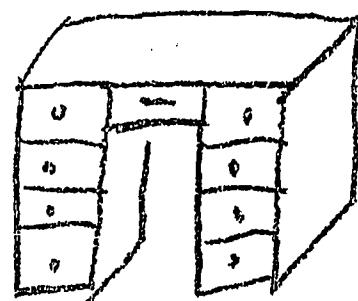
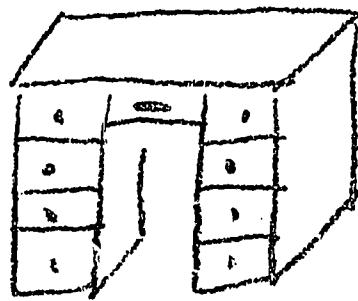




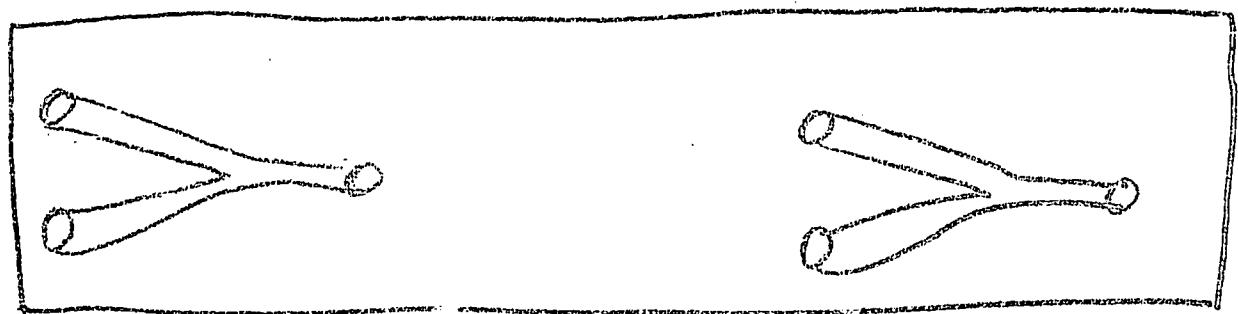
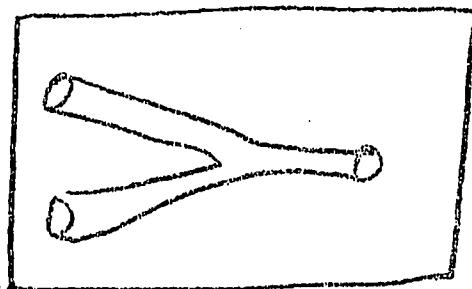




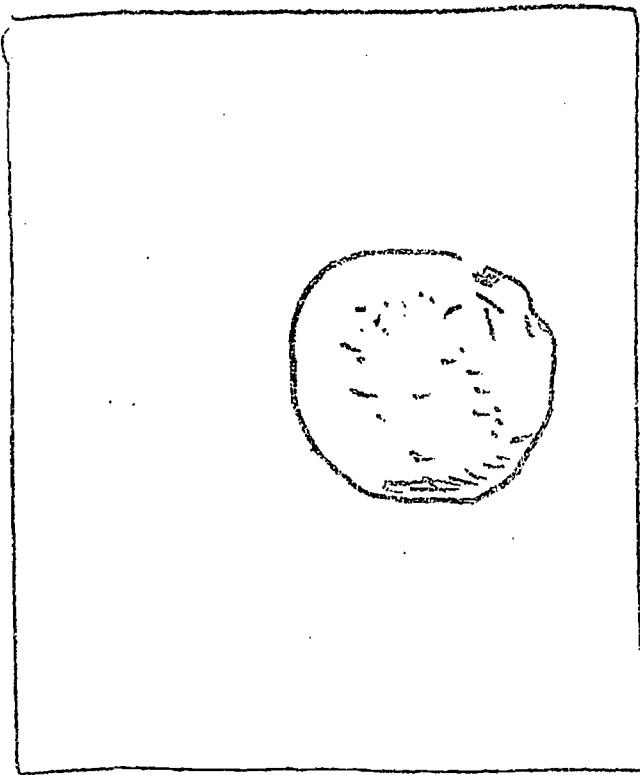
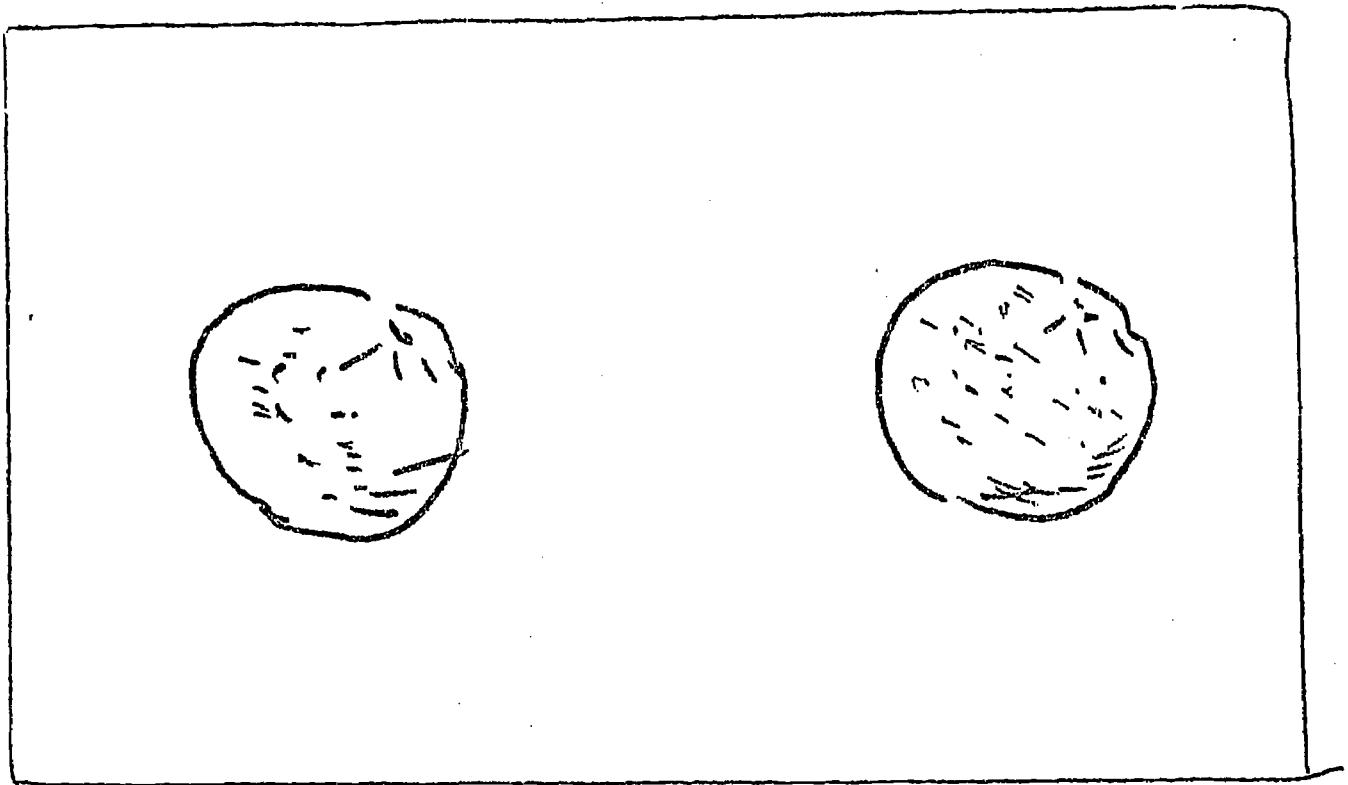
91
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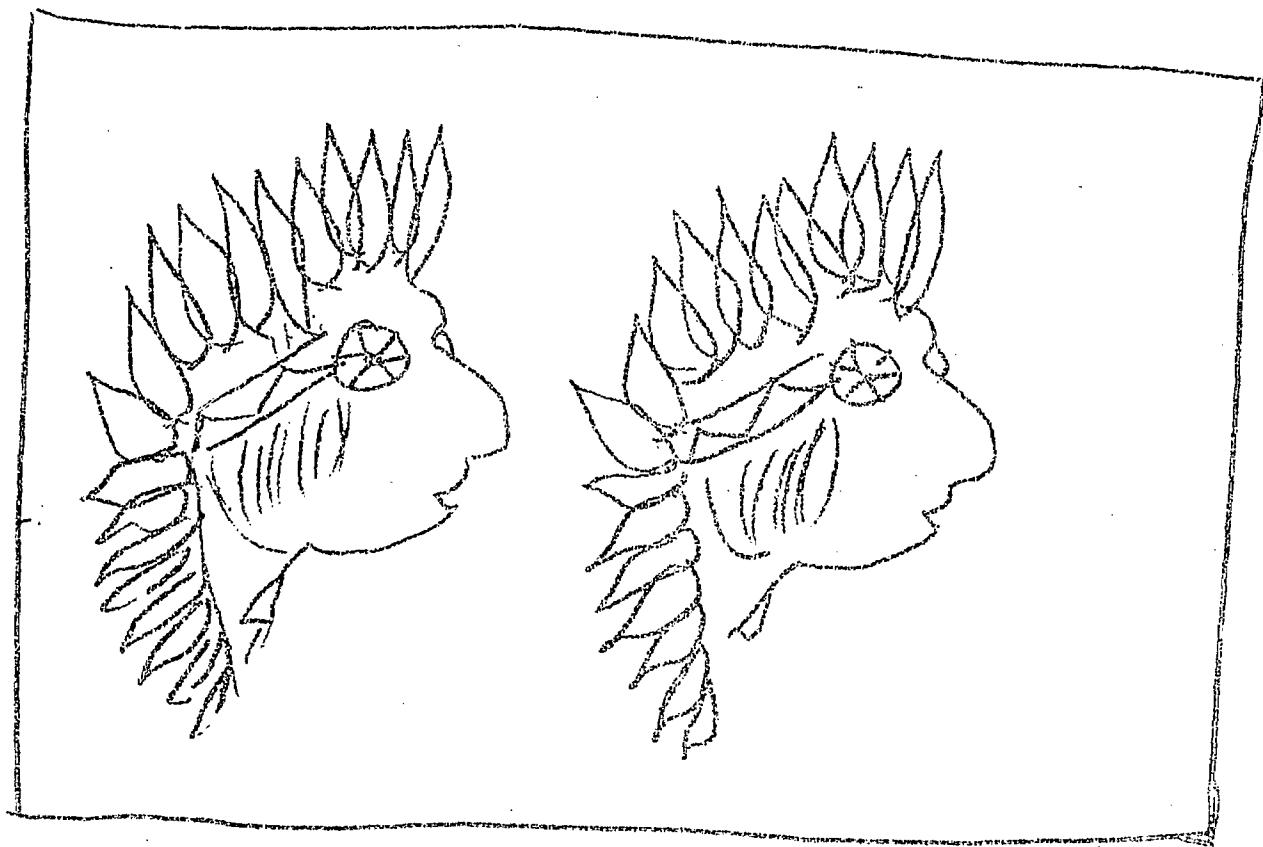
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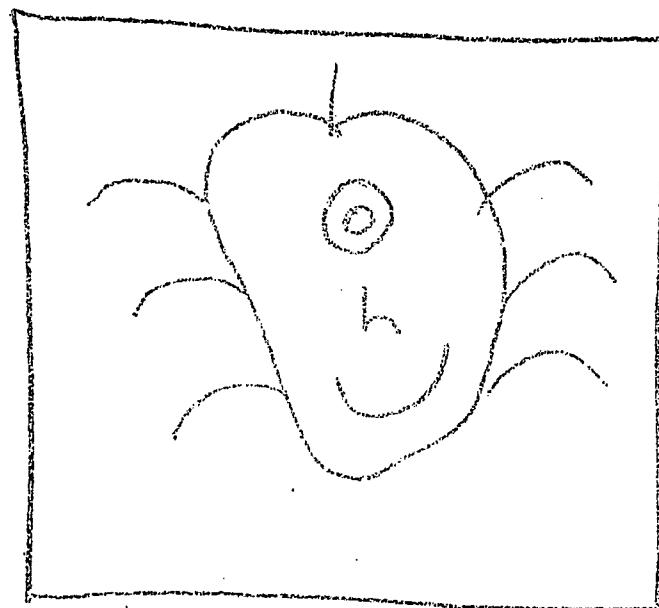
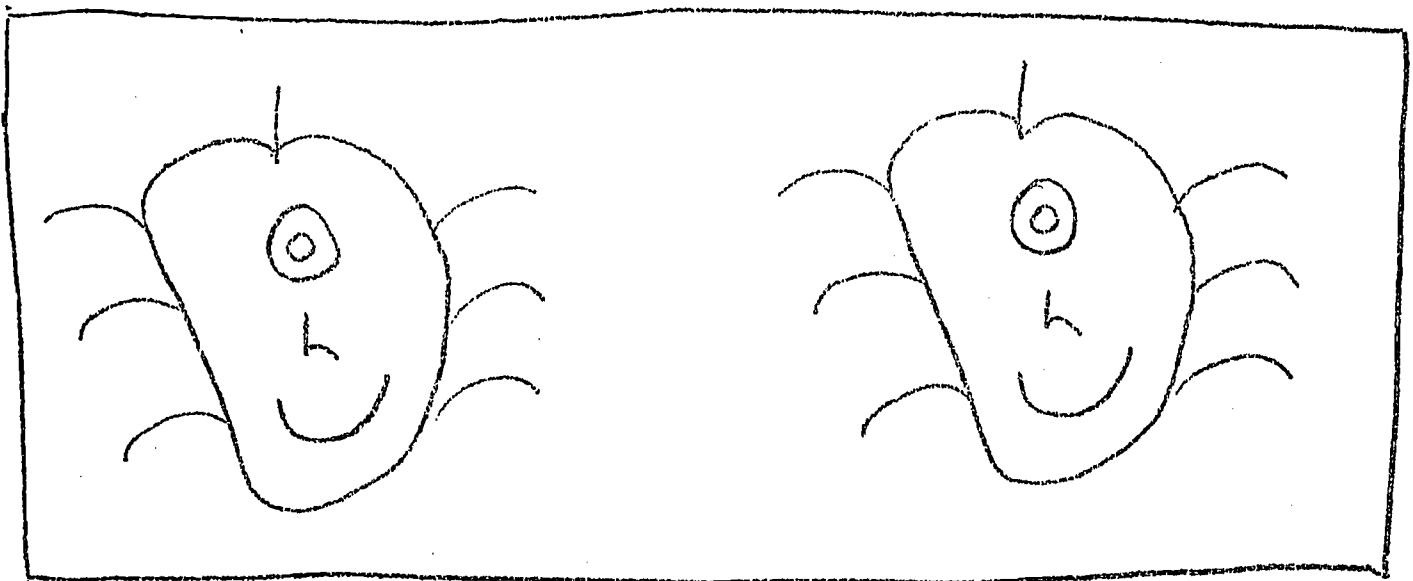


84

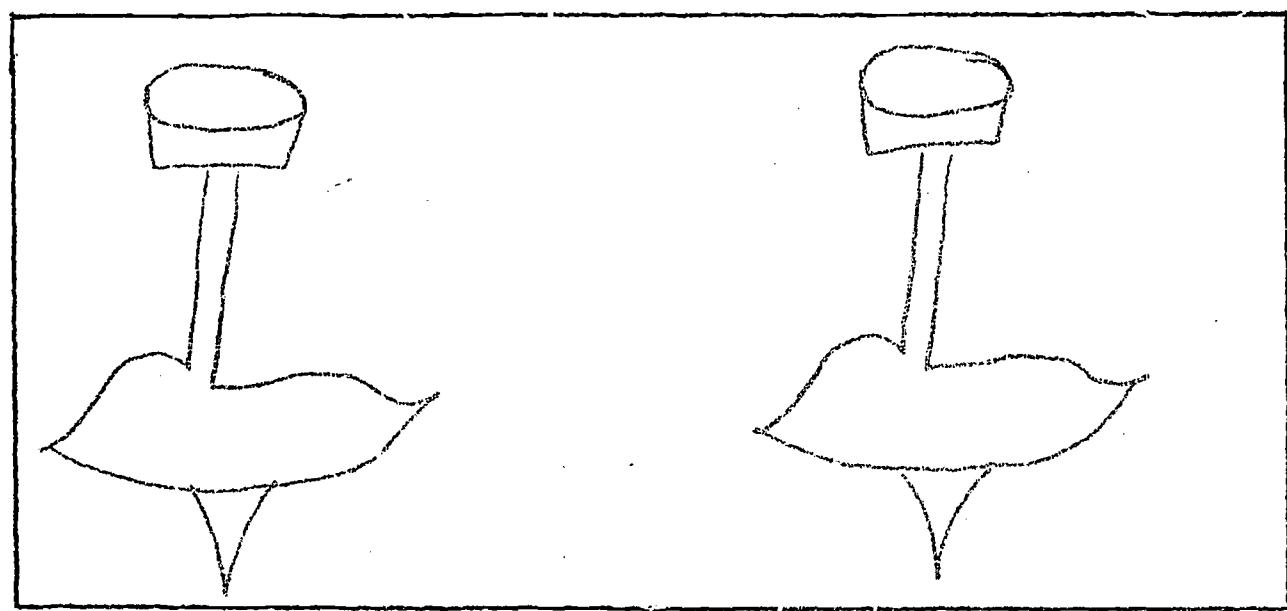
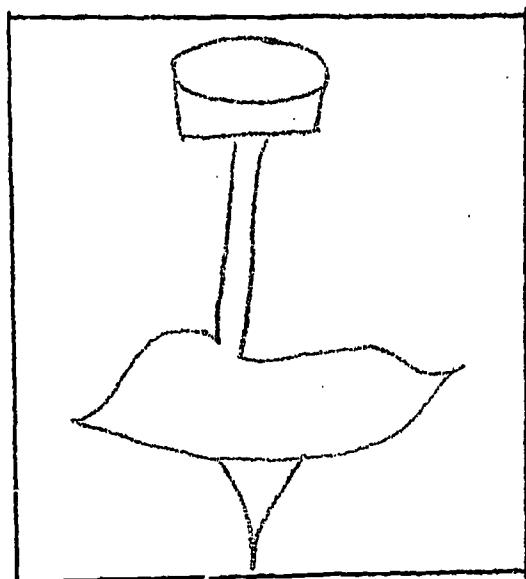


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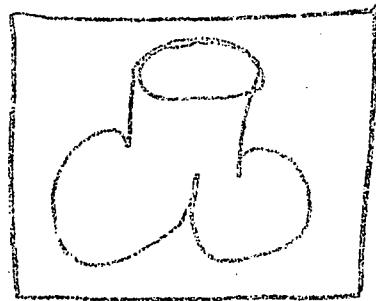
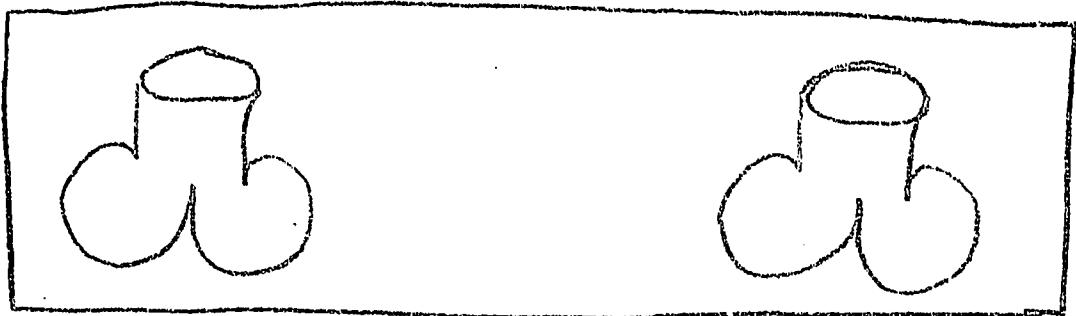




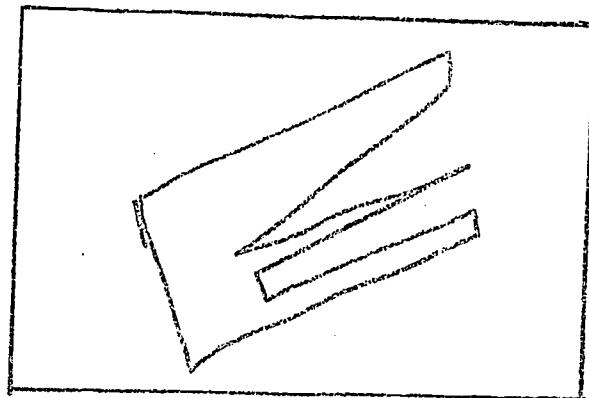
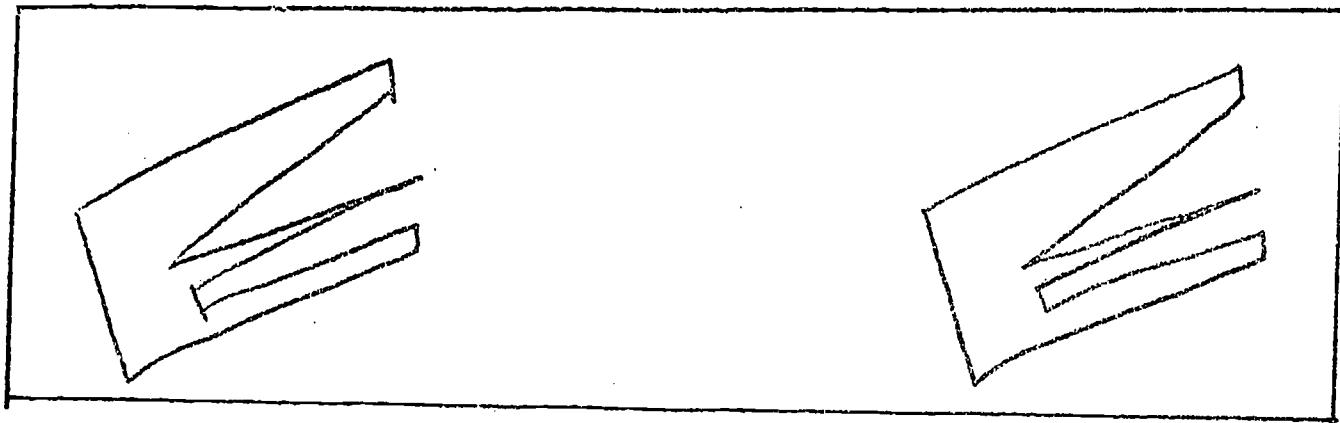
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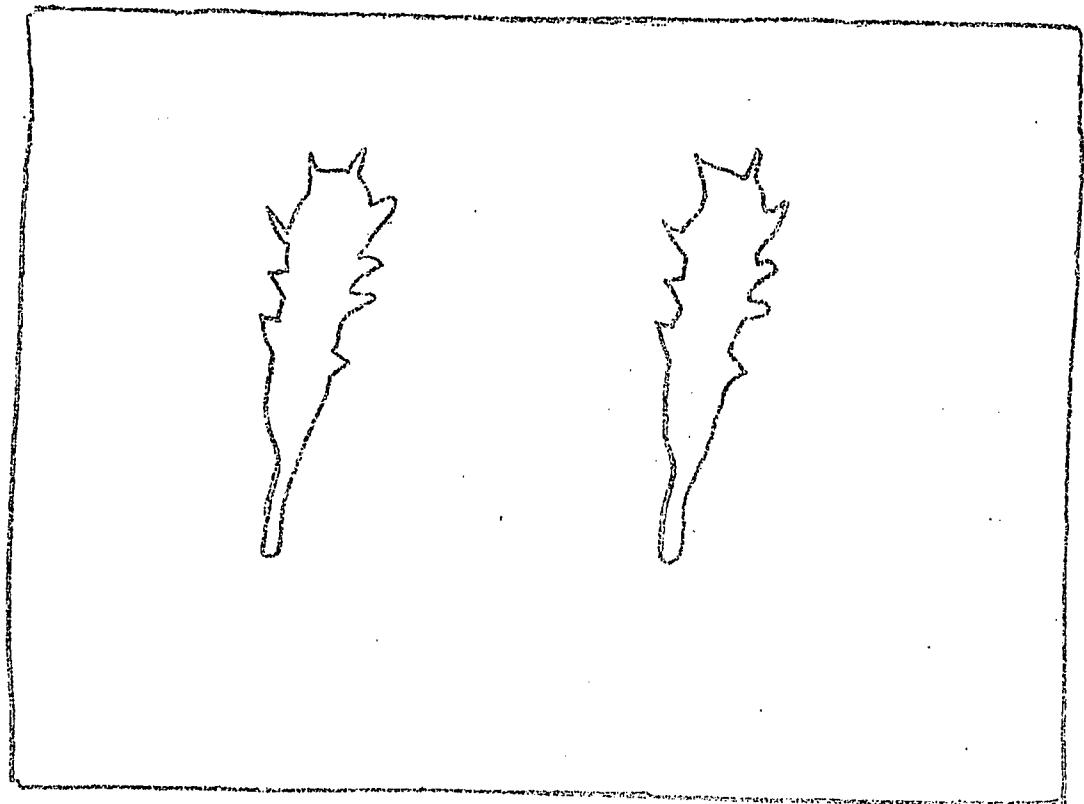
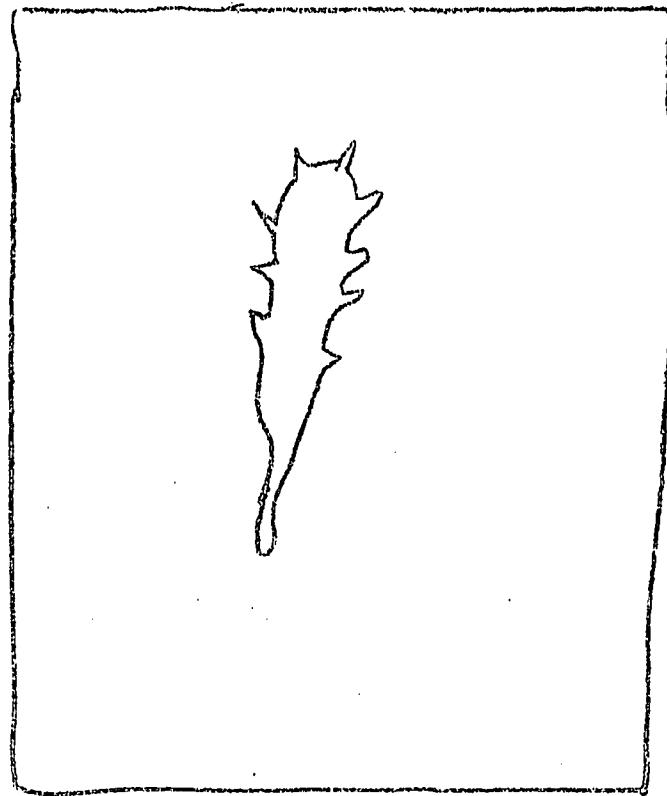
29
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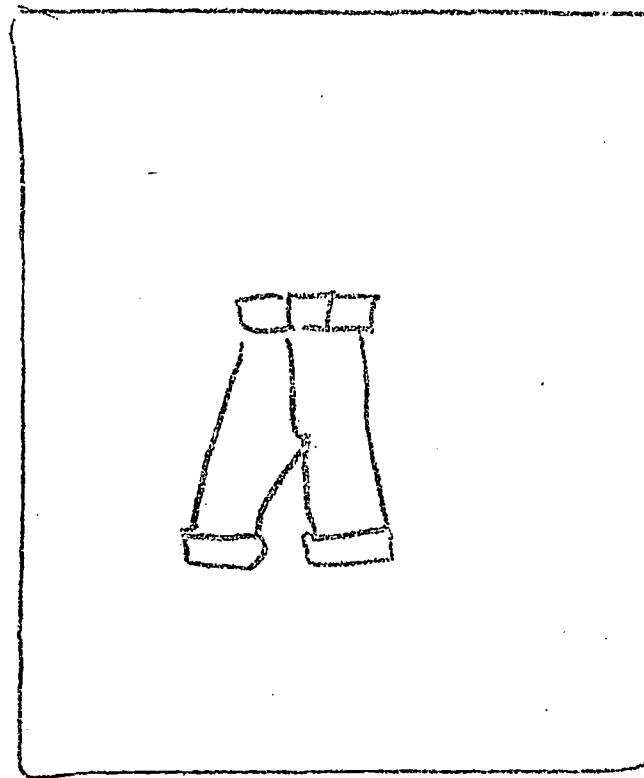
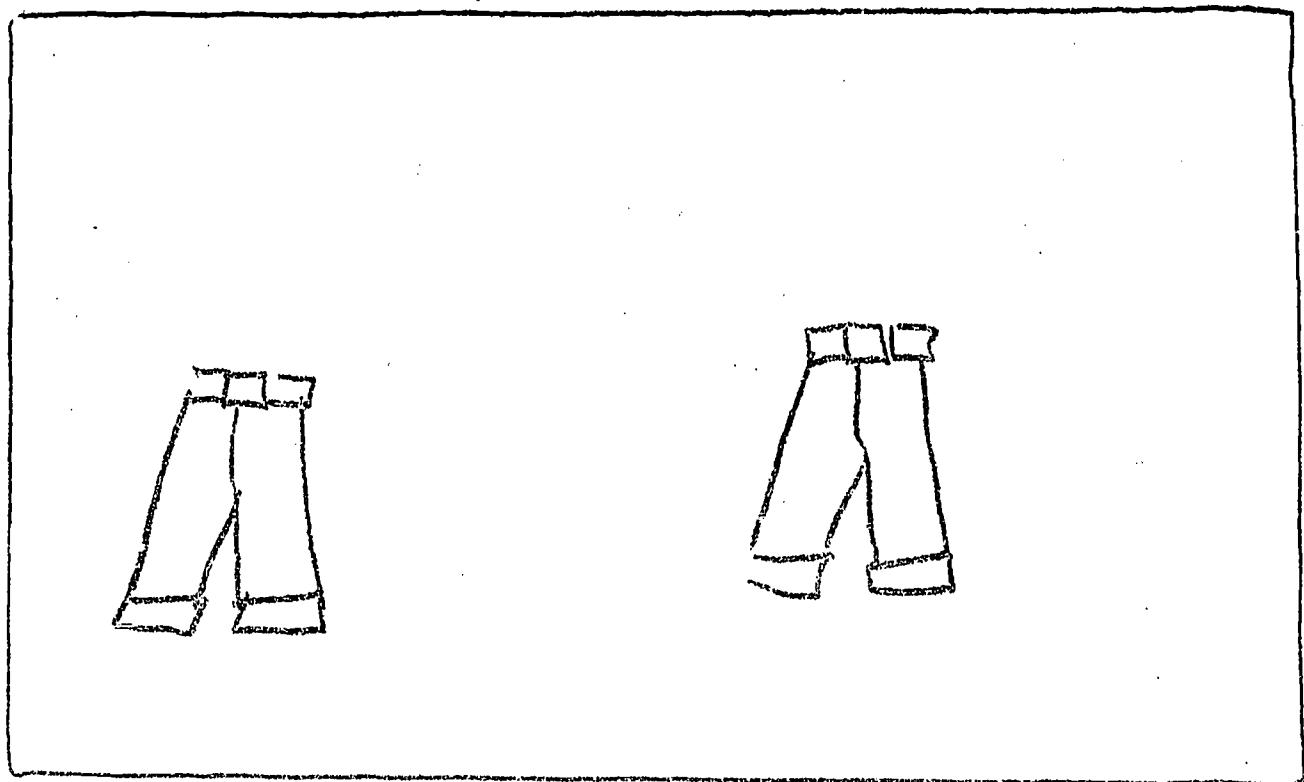


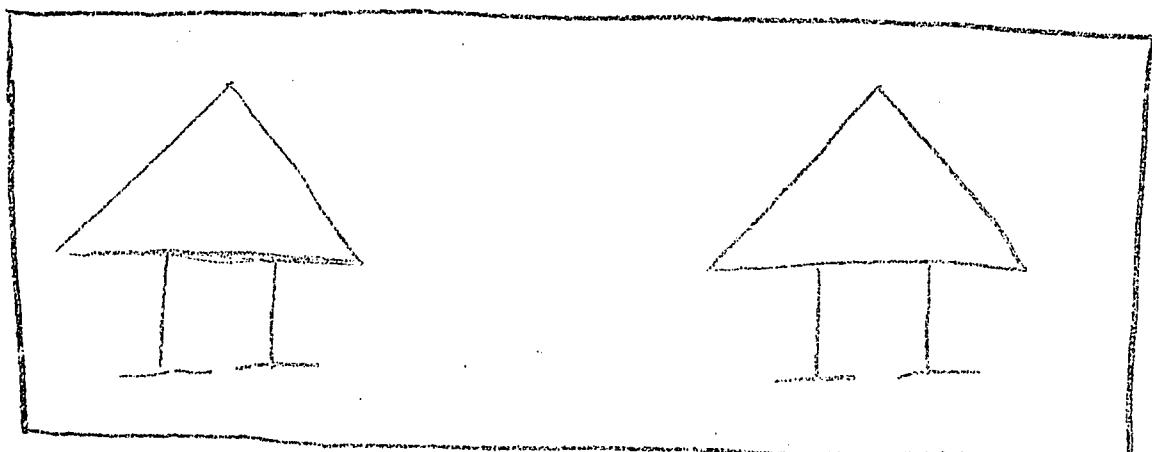
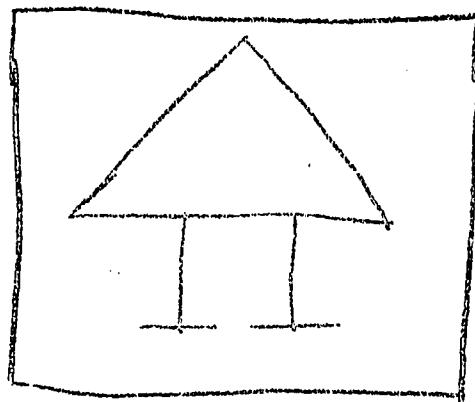
62



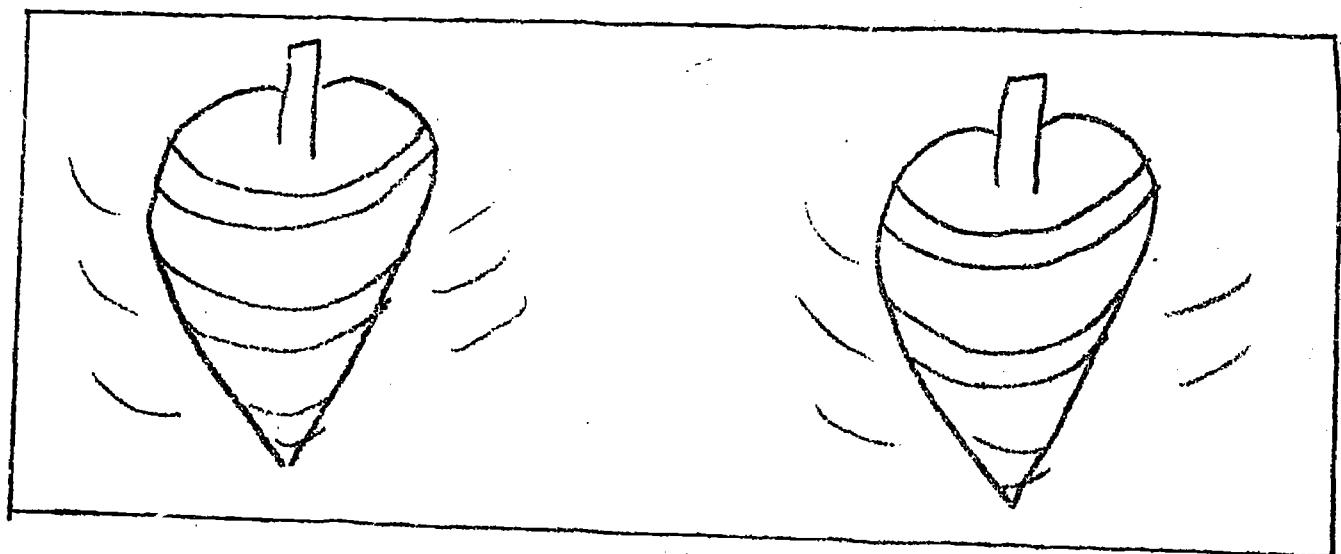
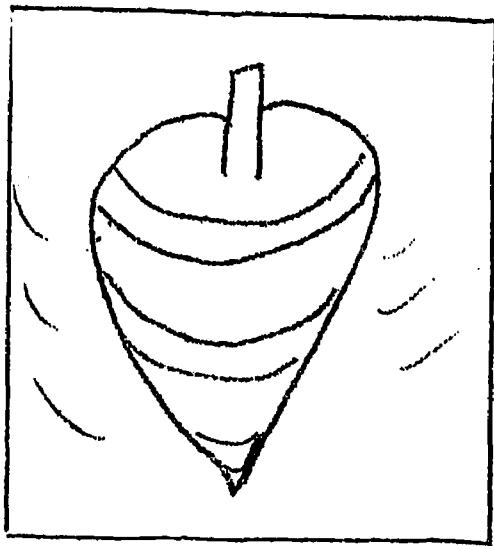
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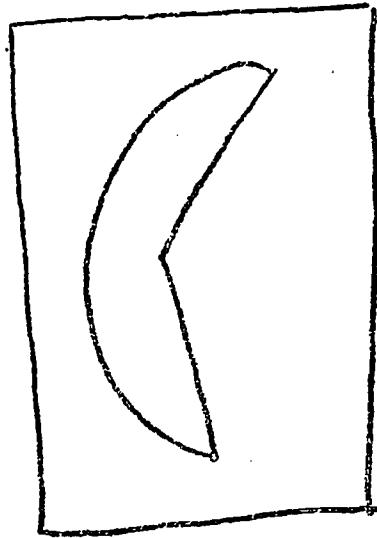
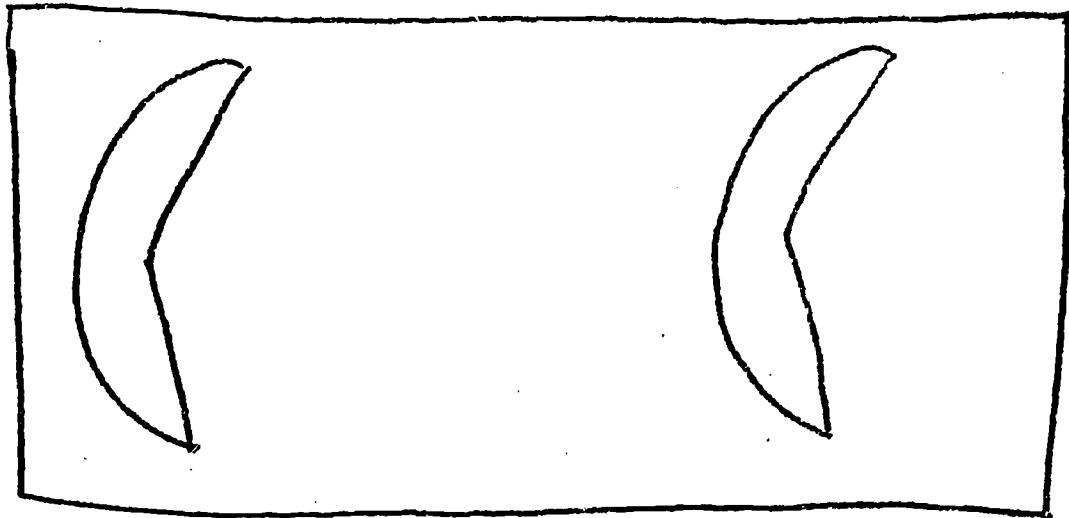




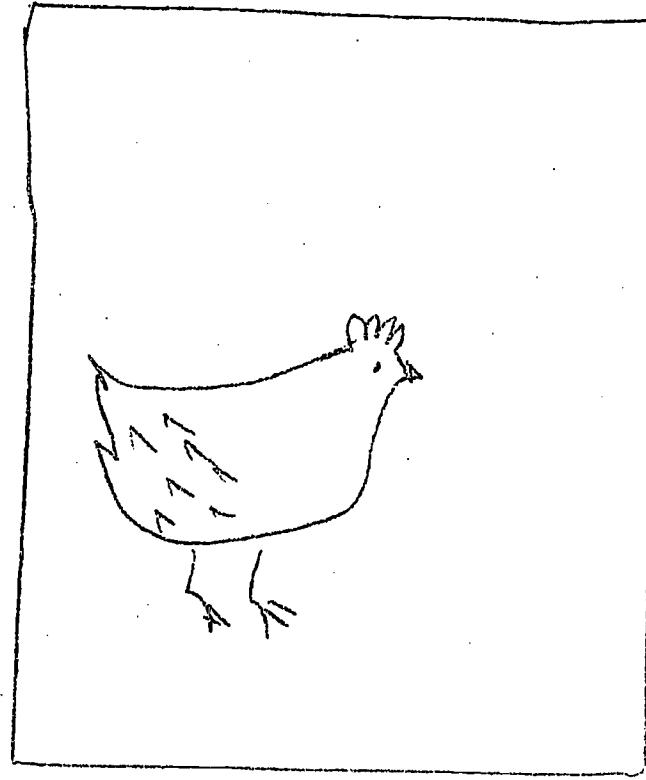
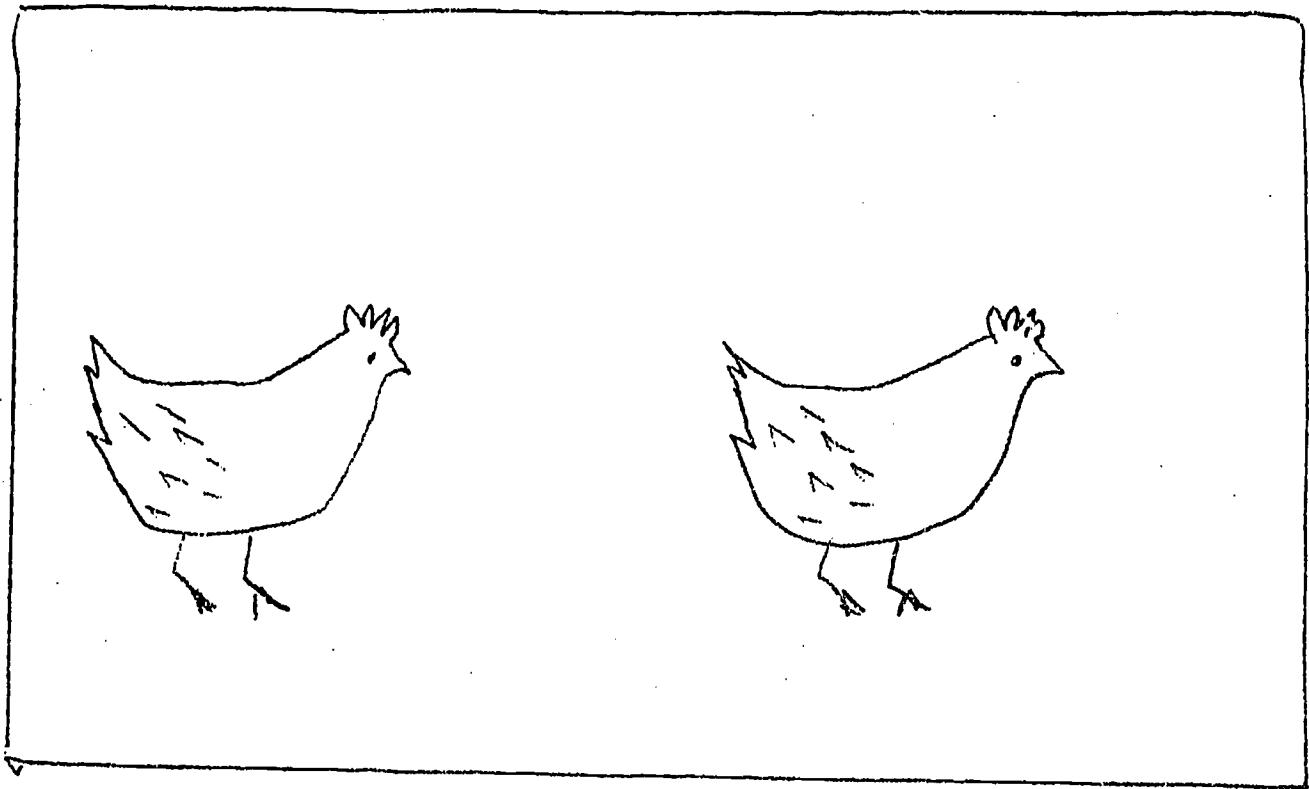
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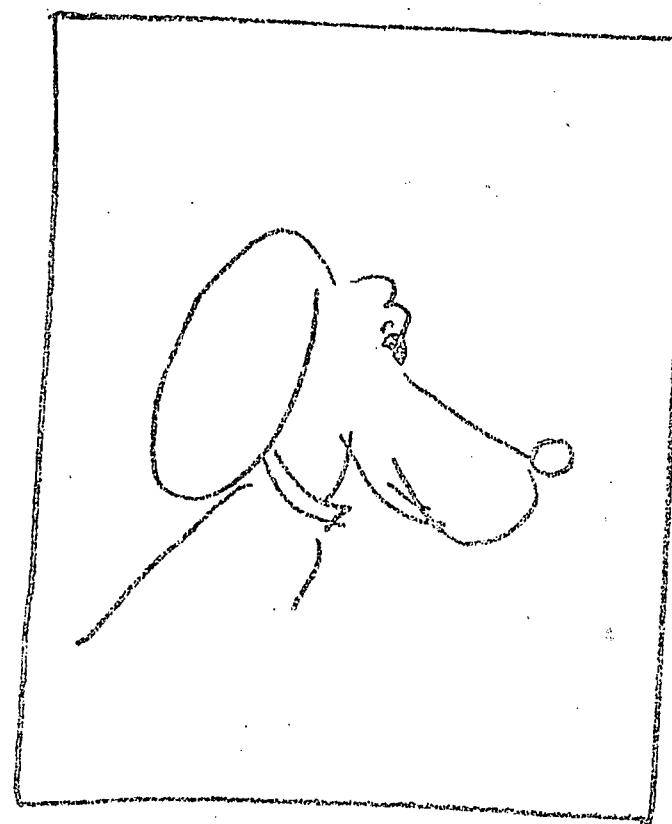
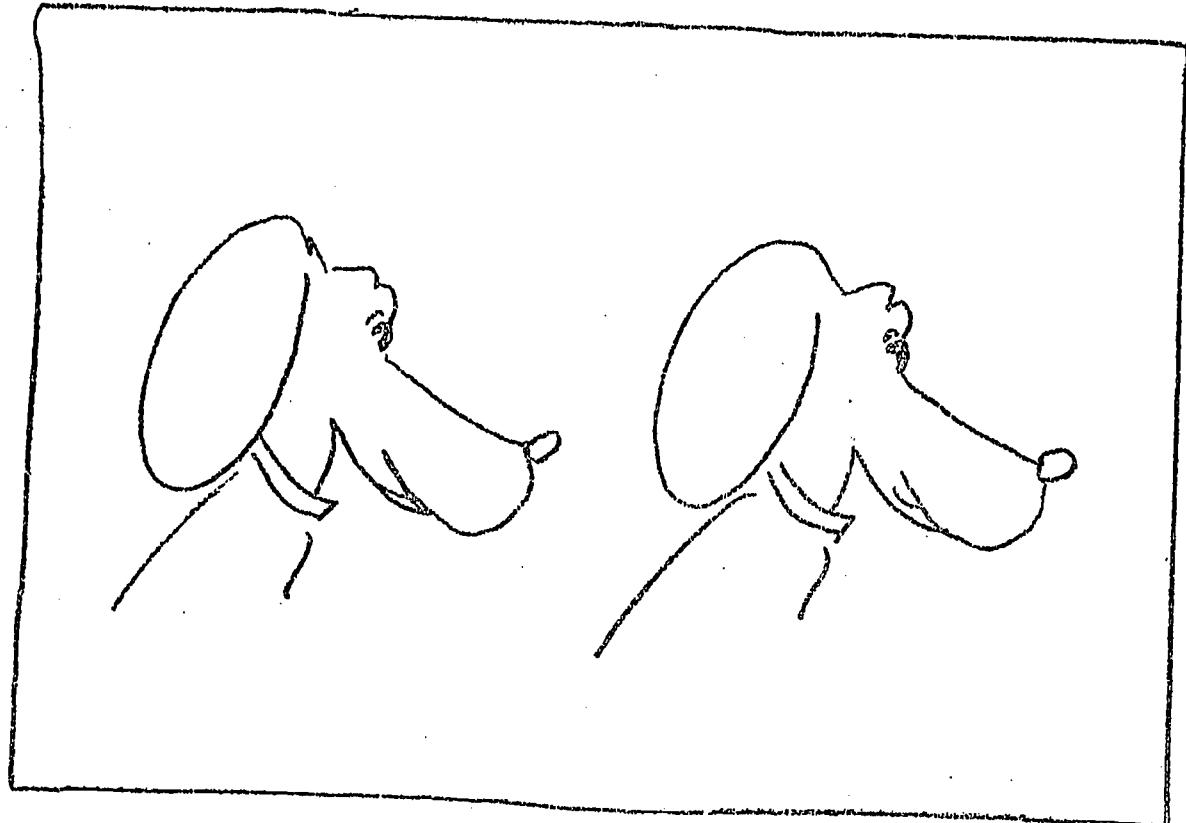
38
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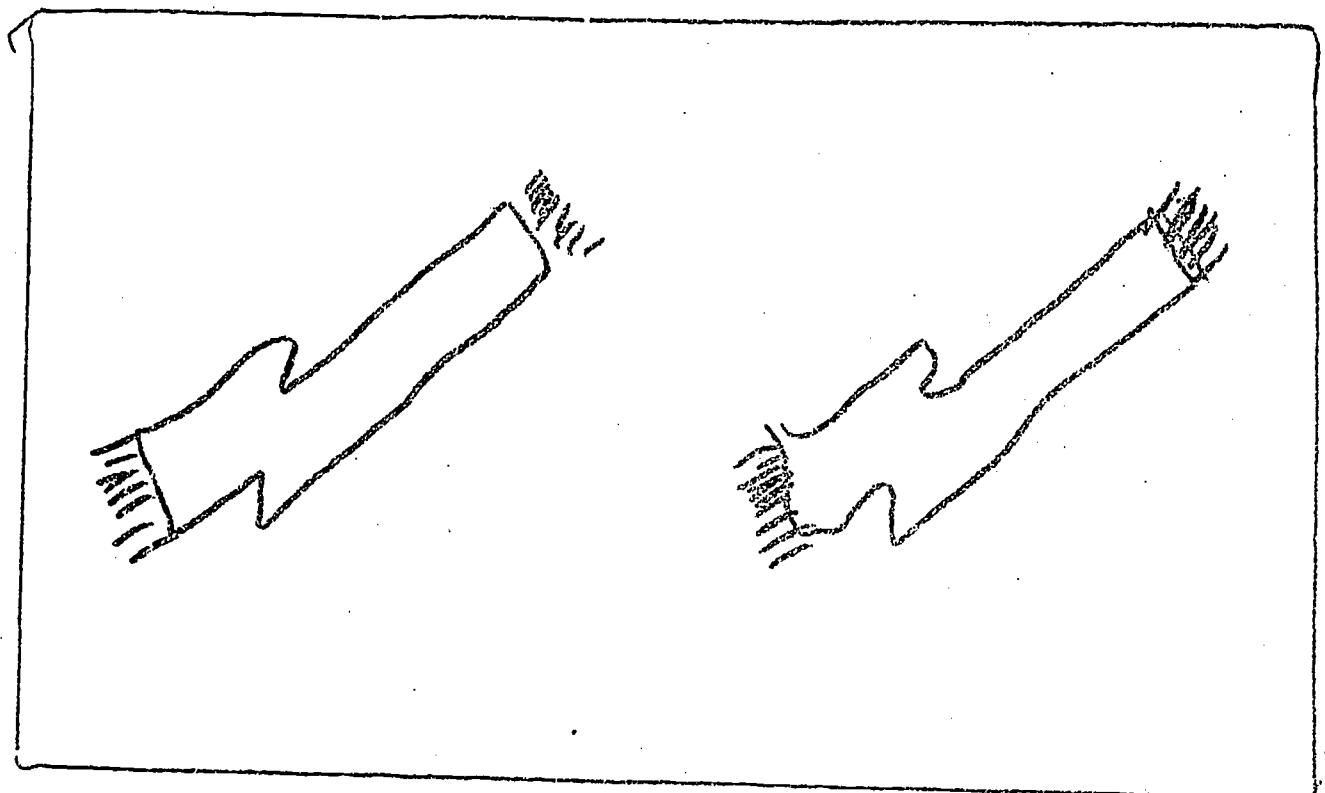
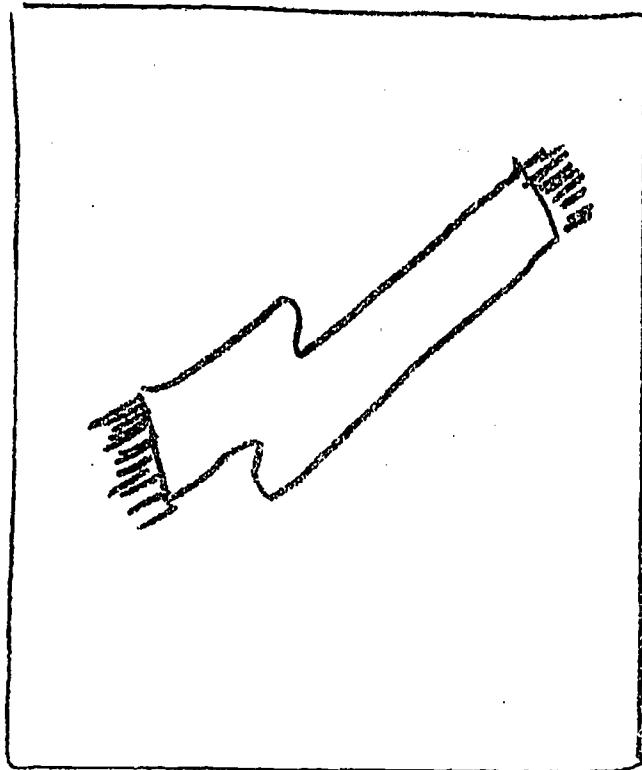


67
OP
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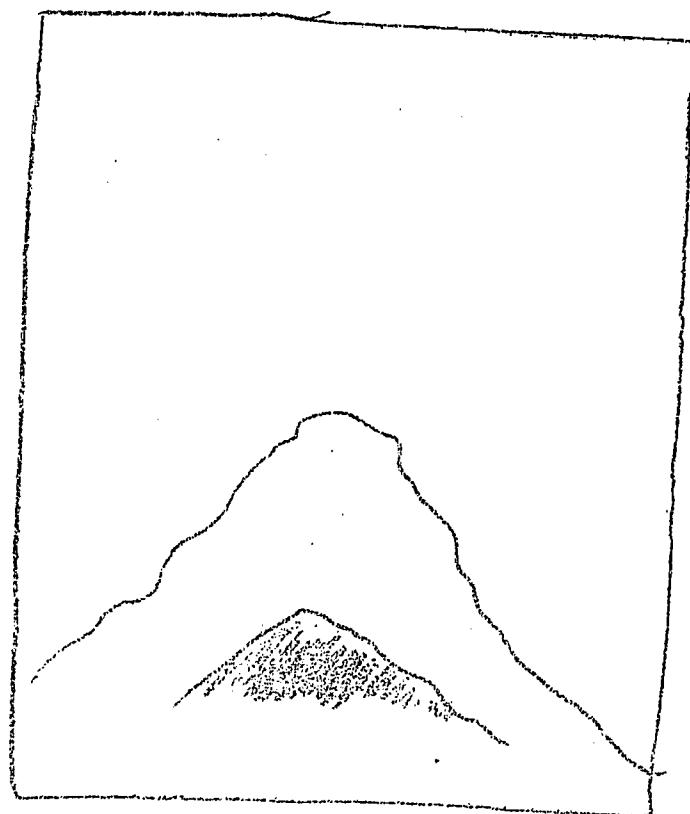
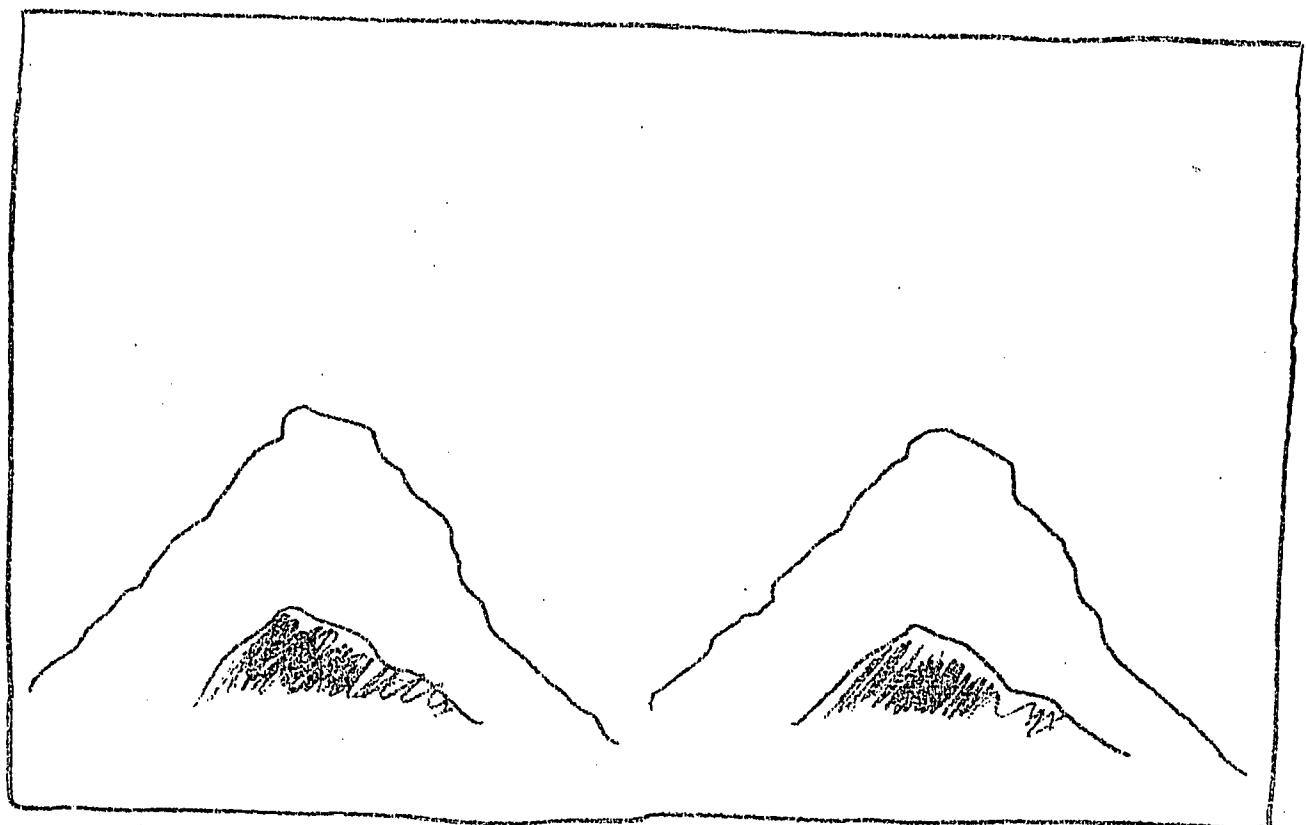


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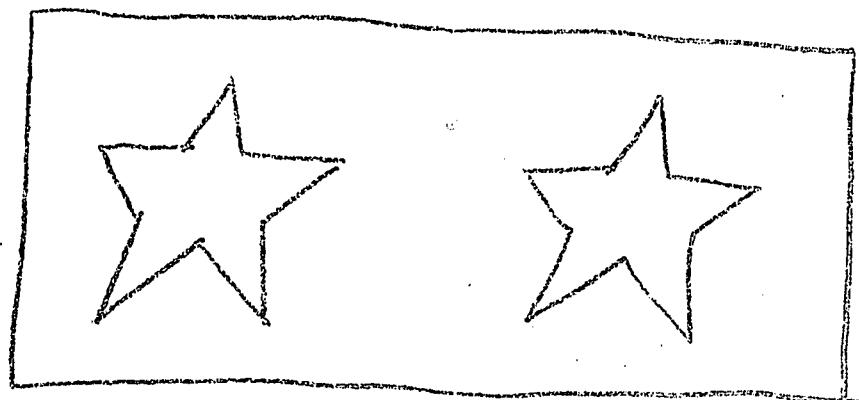
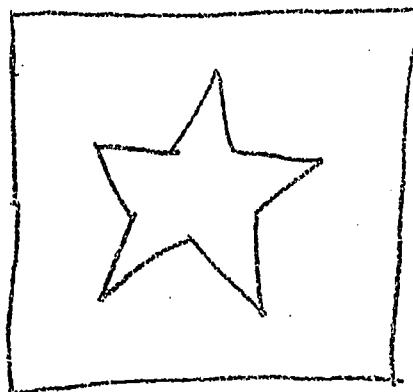




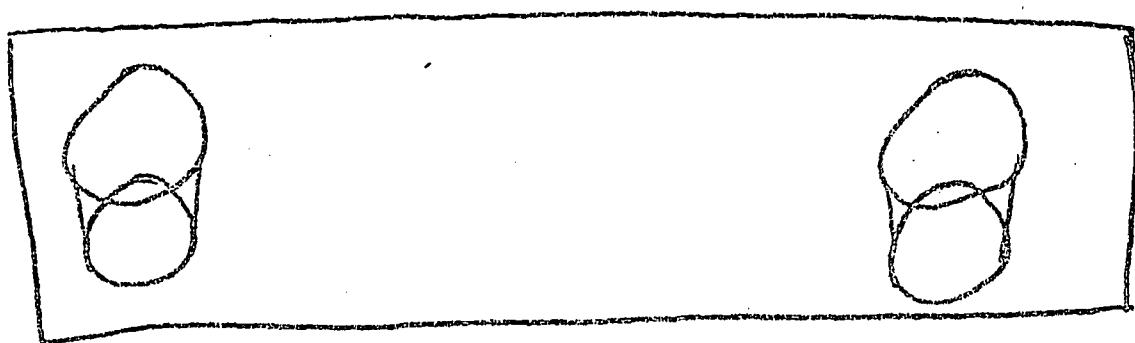
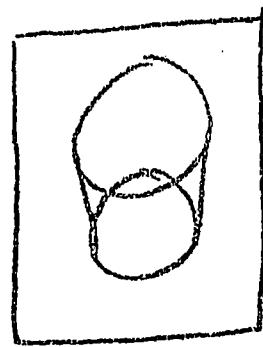
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OR



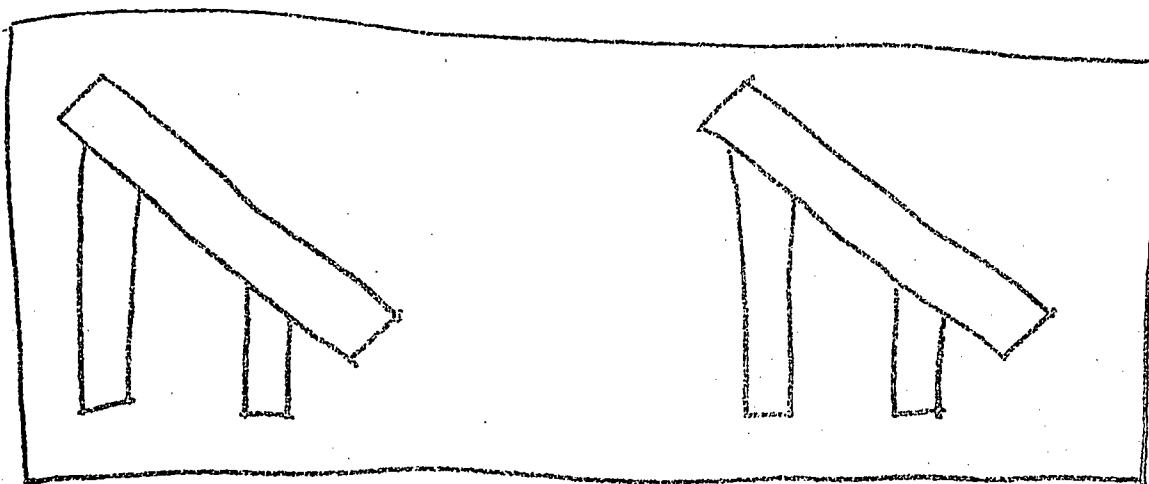
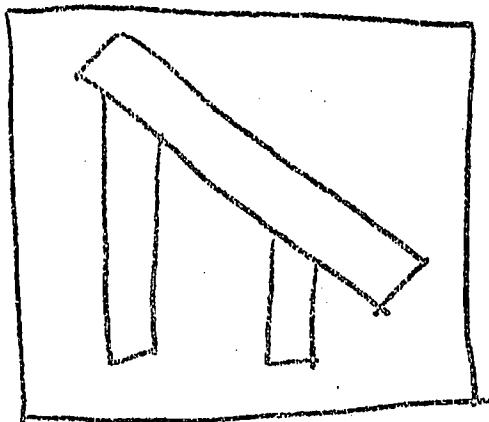
J.O.
O.P.
OR



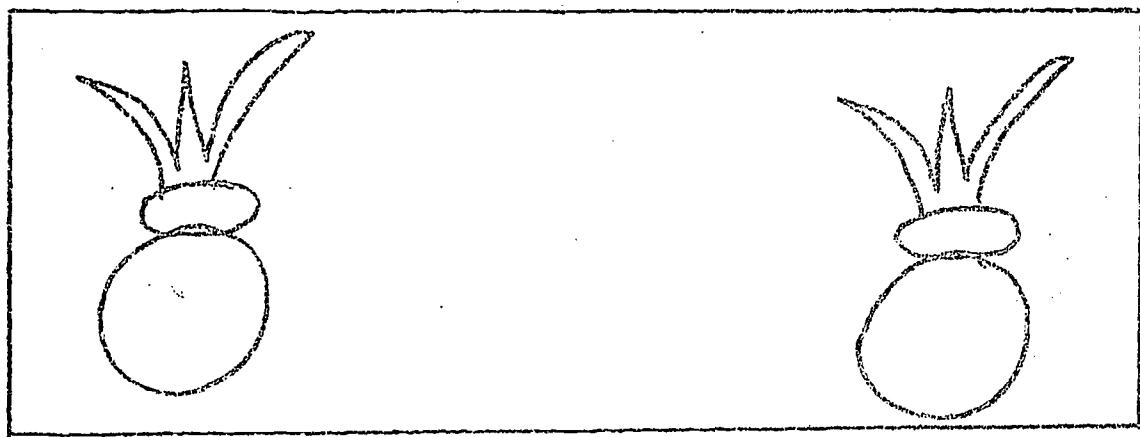
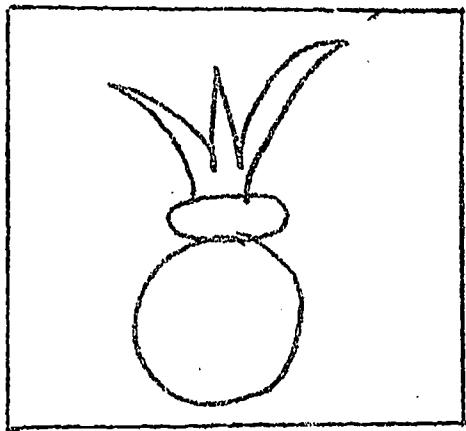
29
op



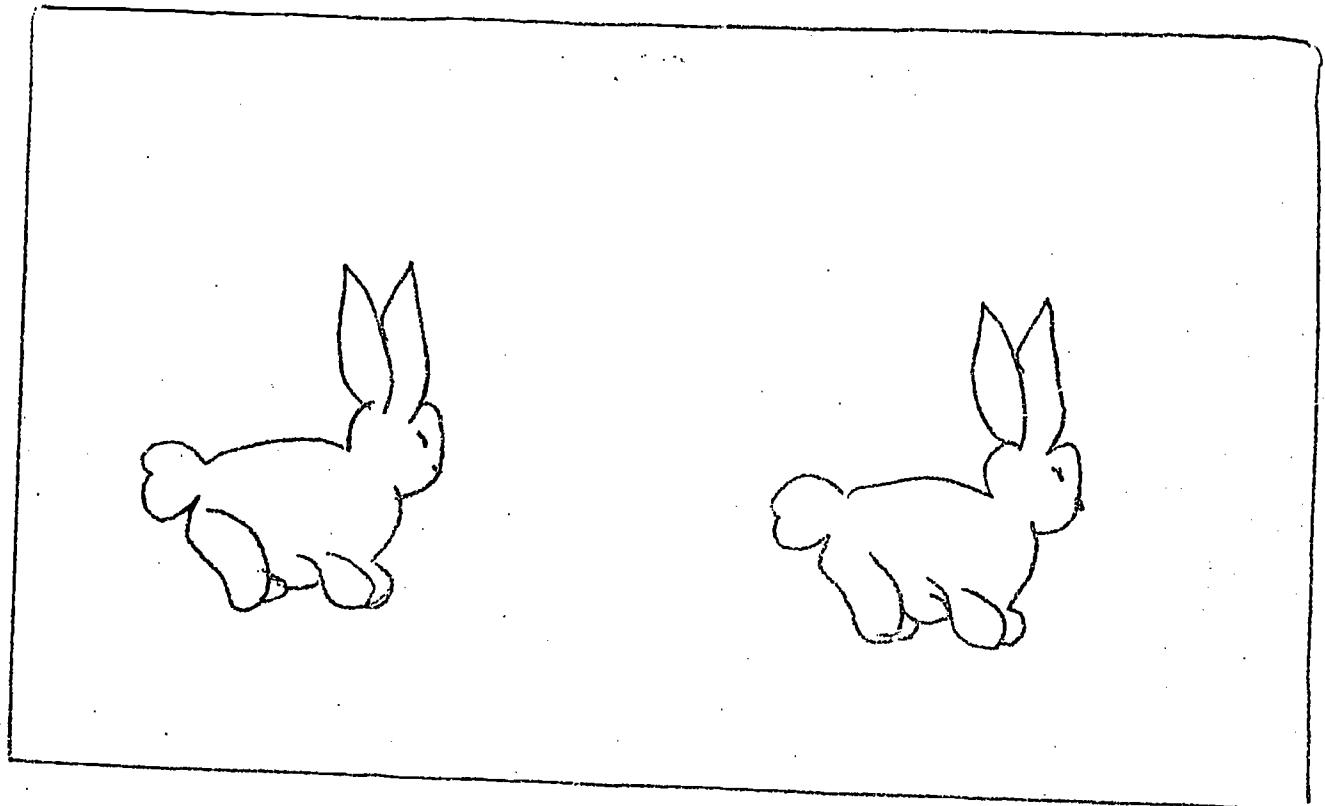
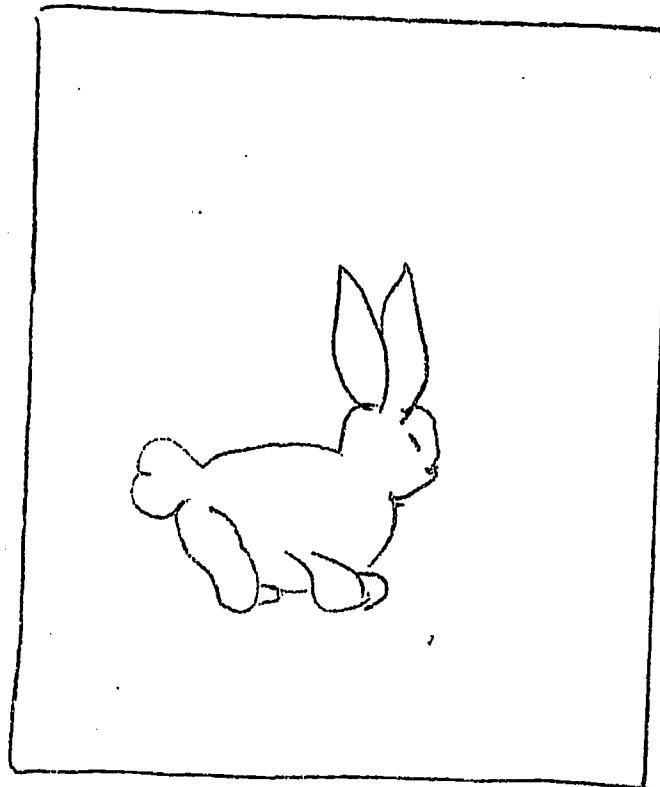
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op

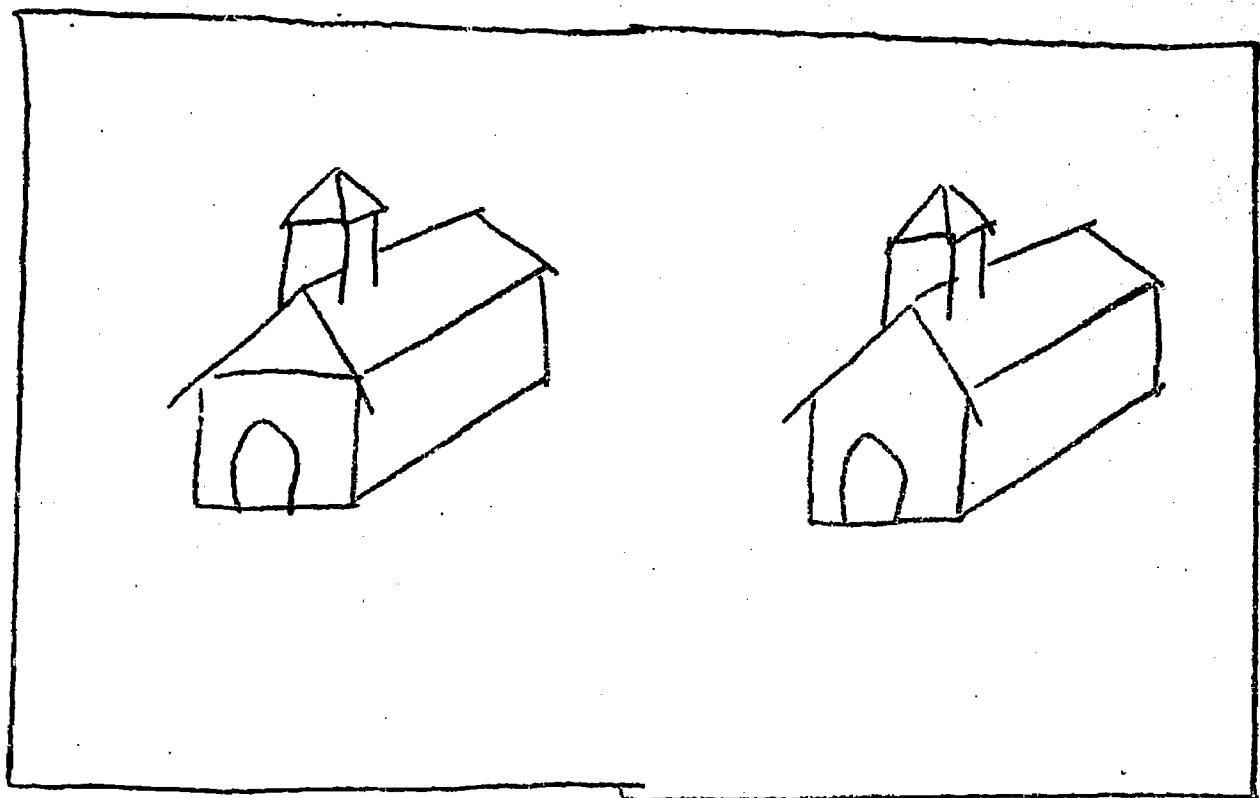
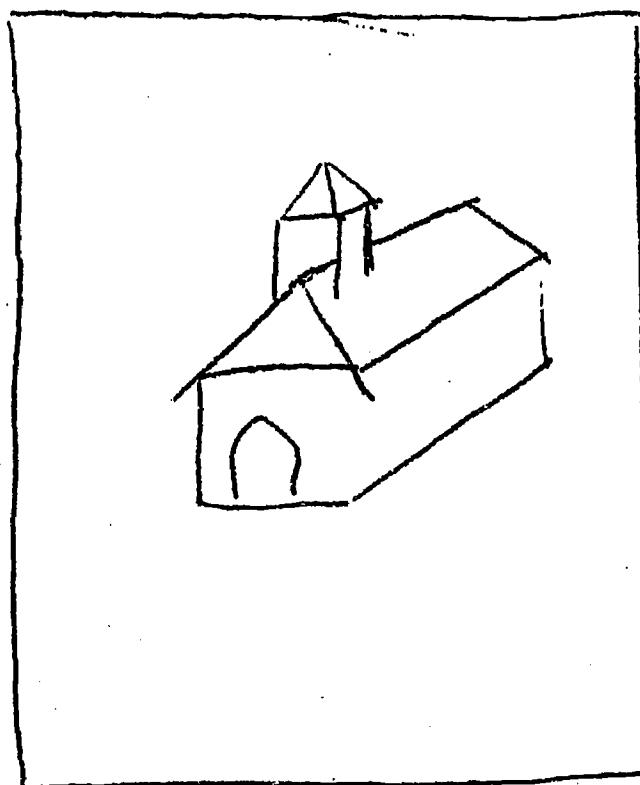


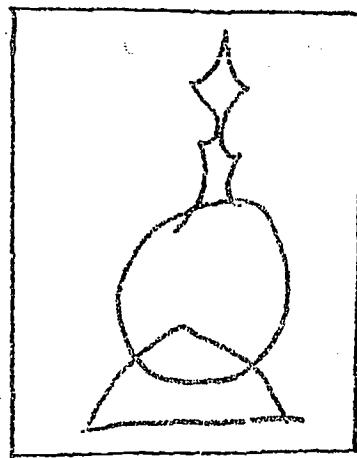
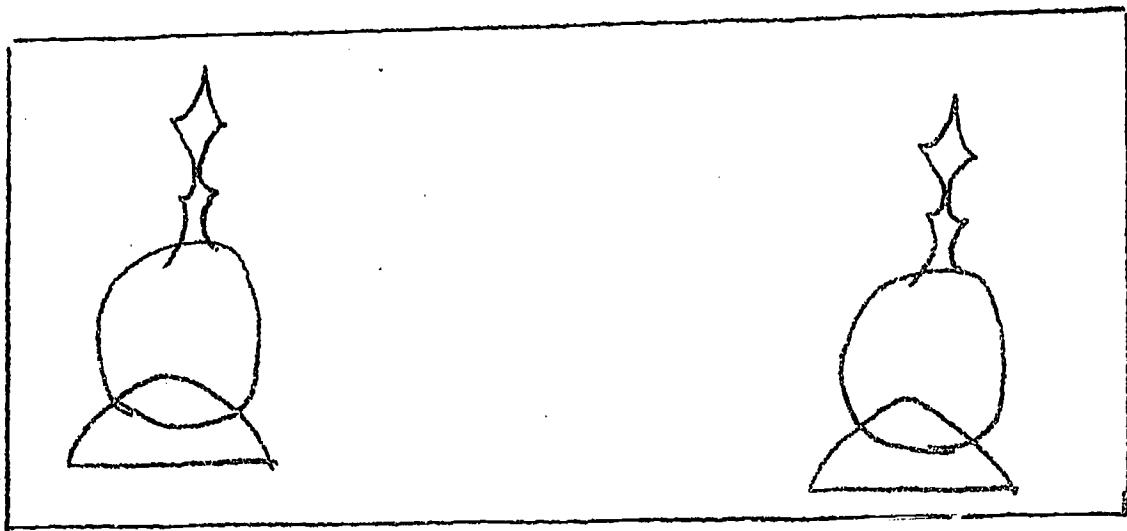
64



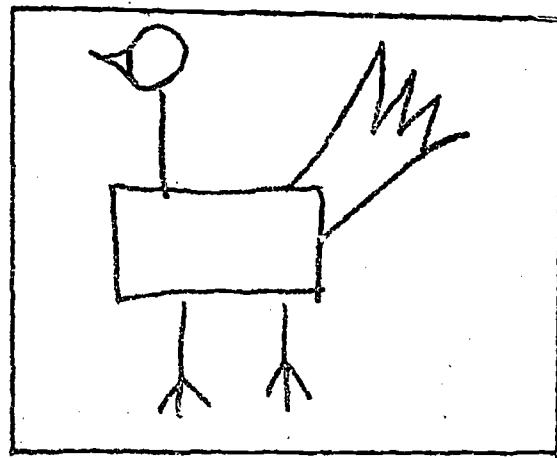
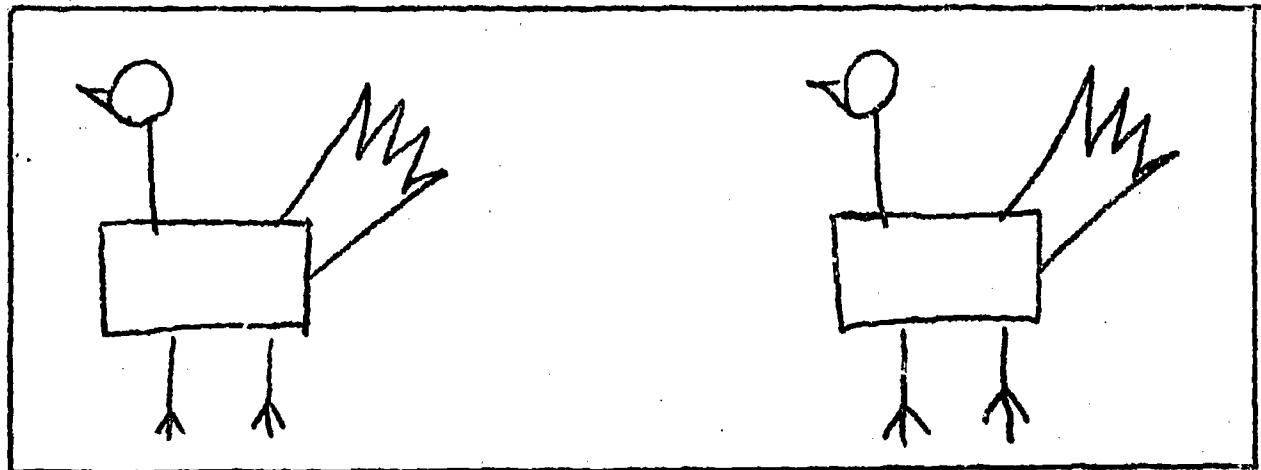
59
OP
OR



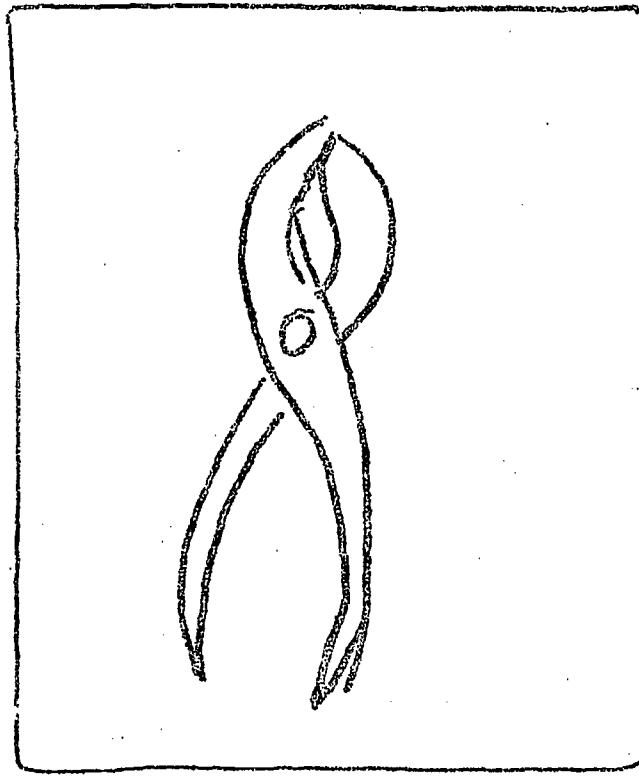
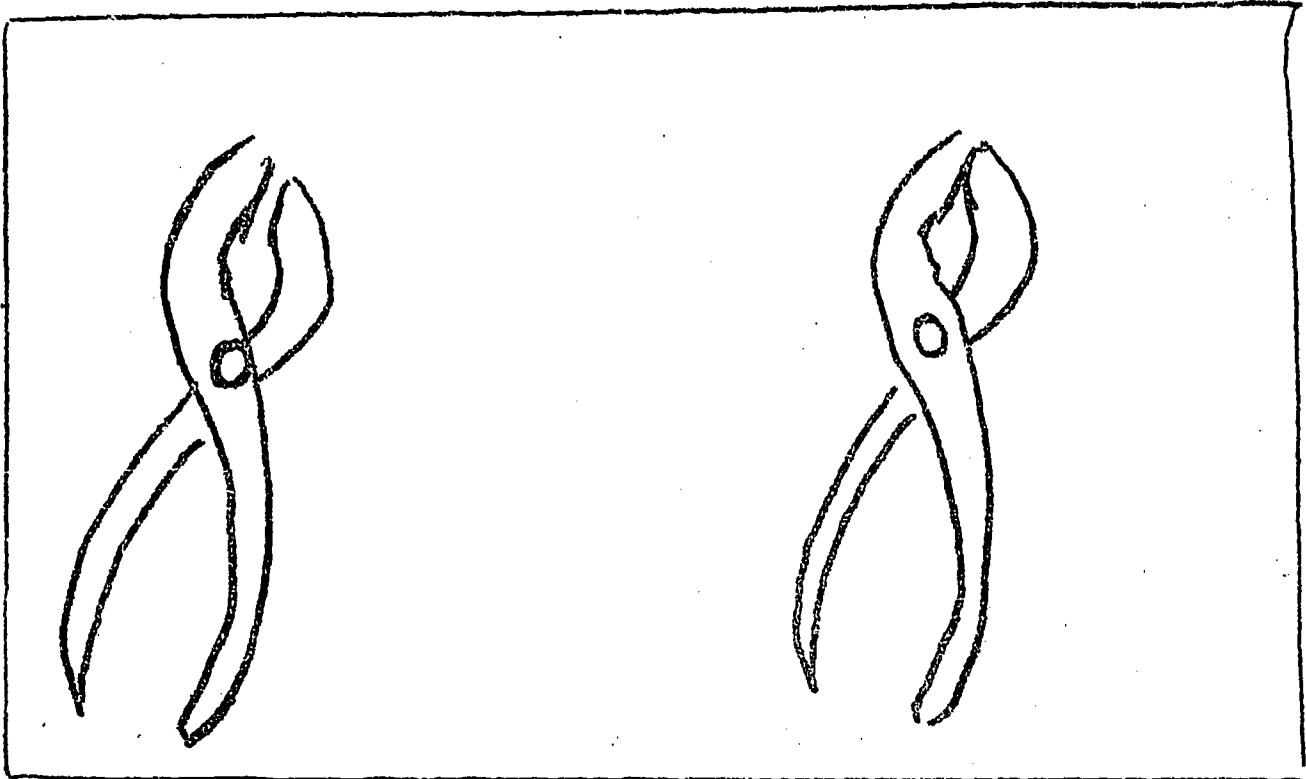


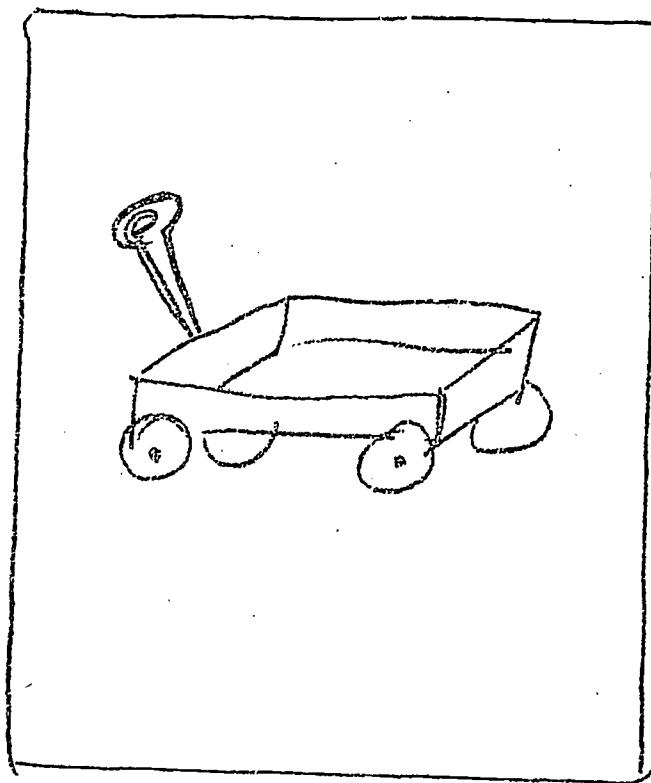
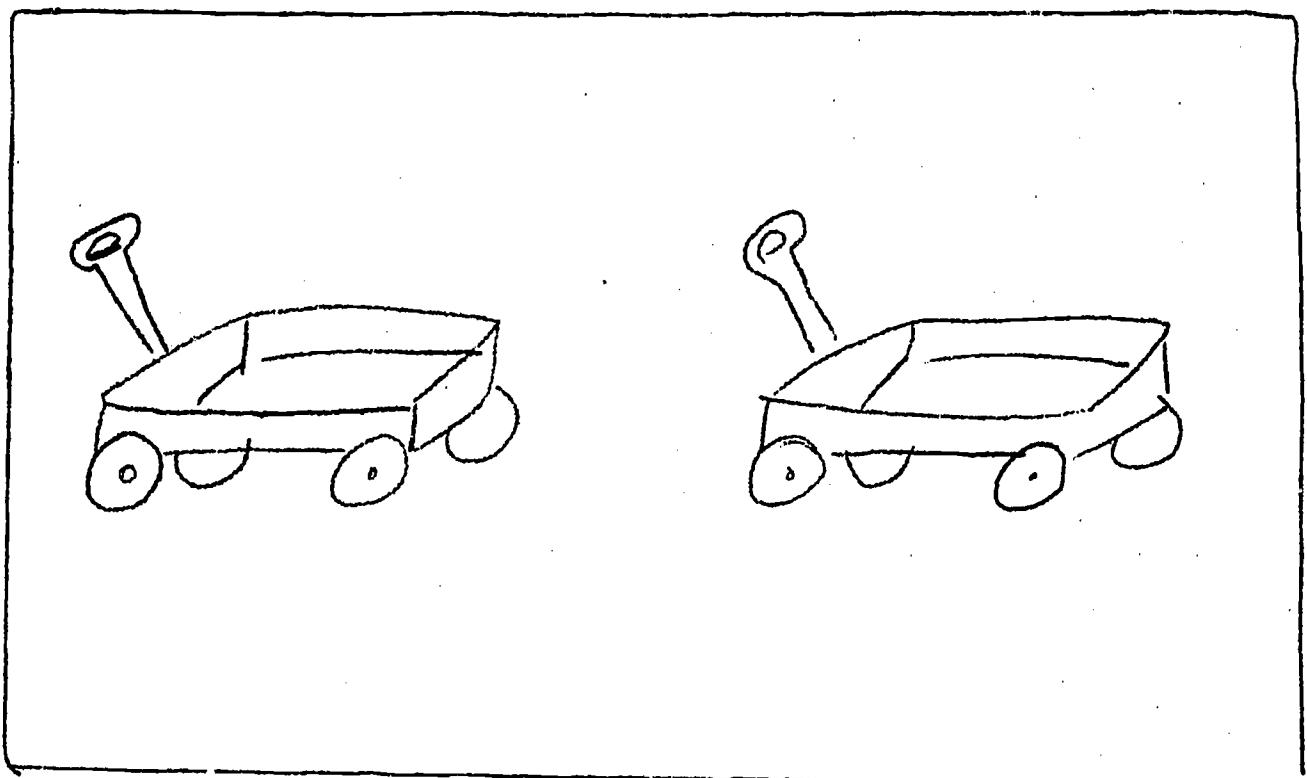


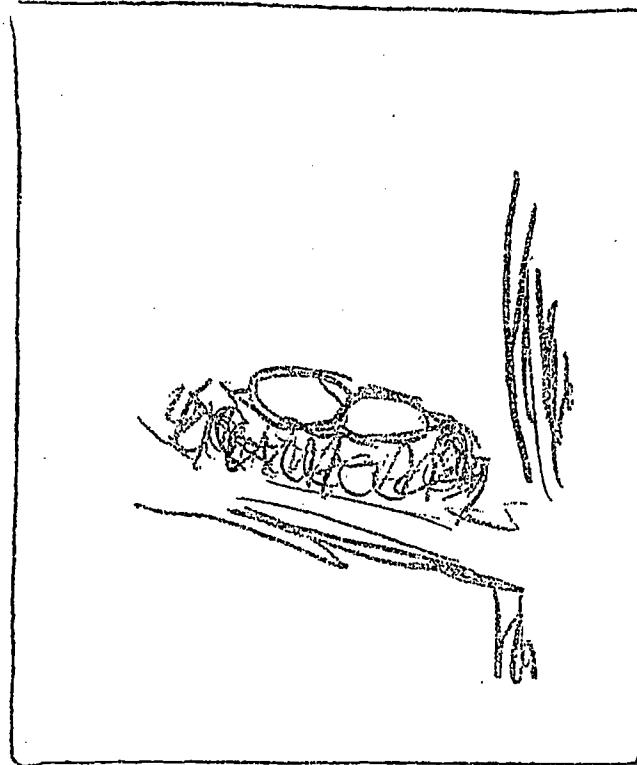
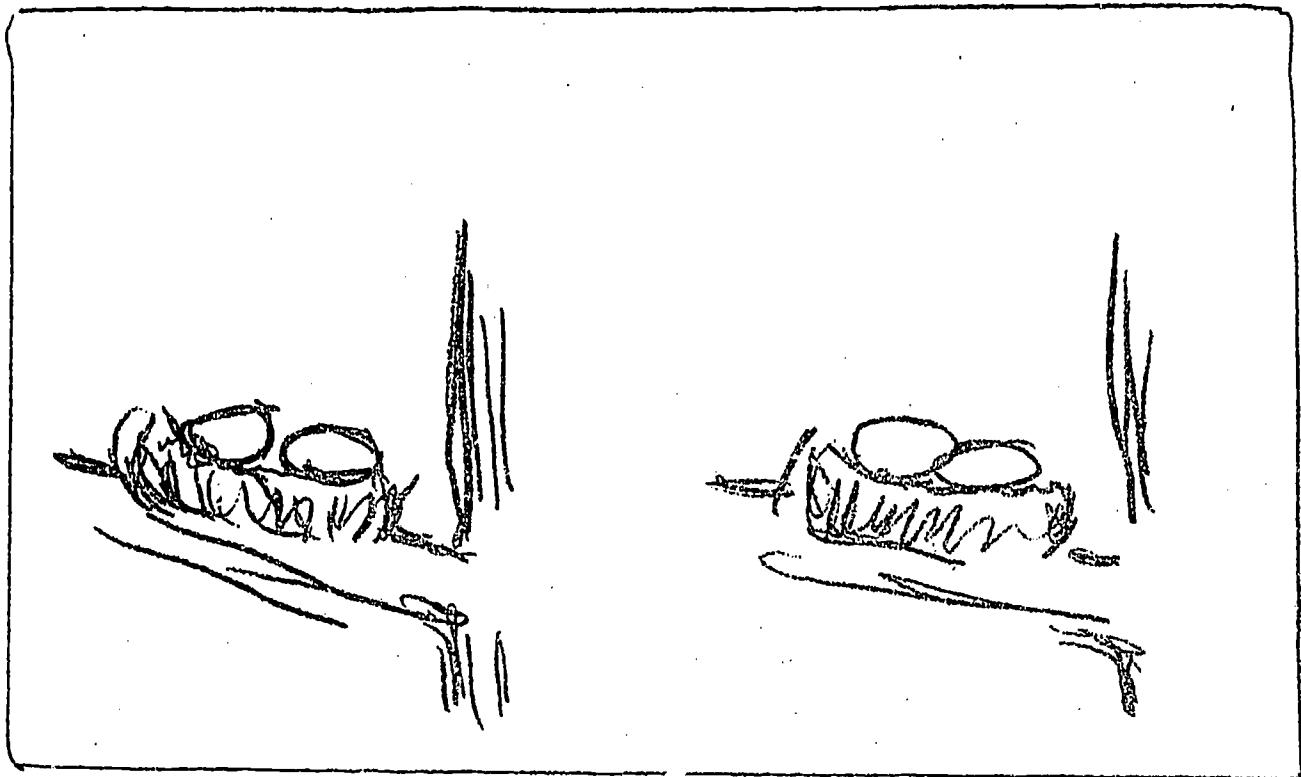
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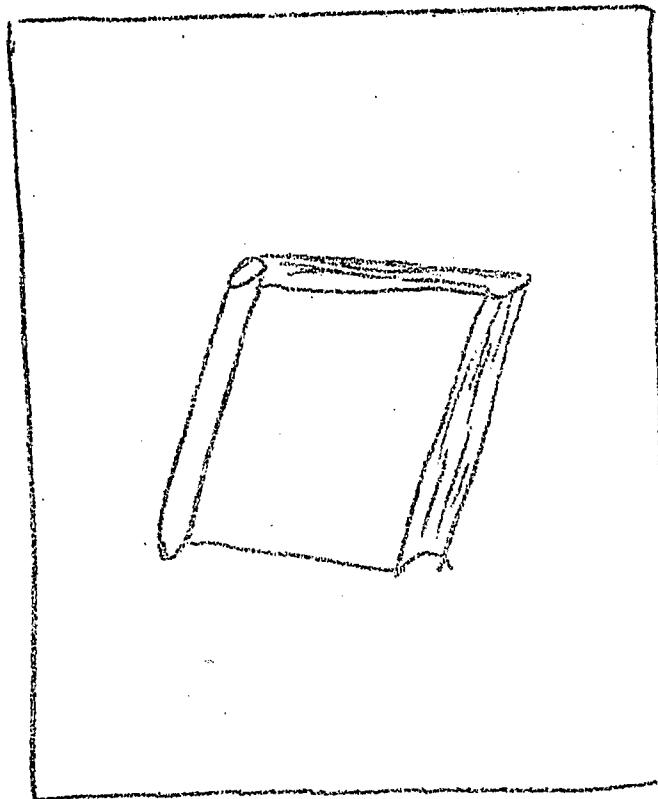
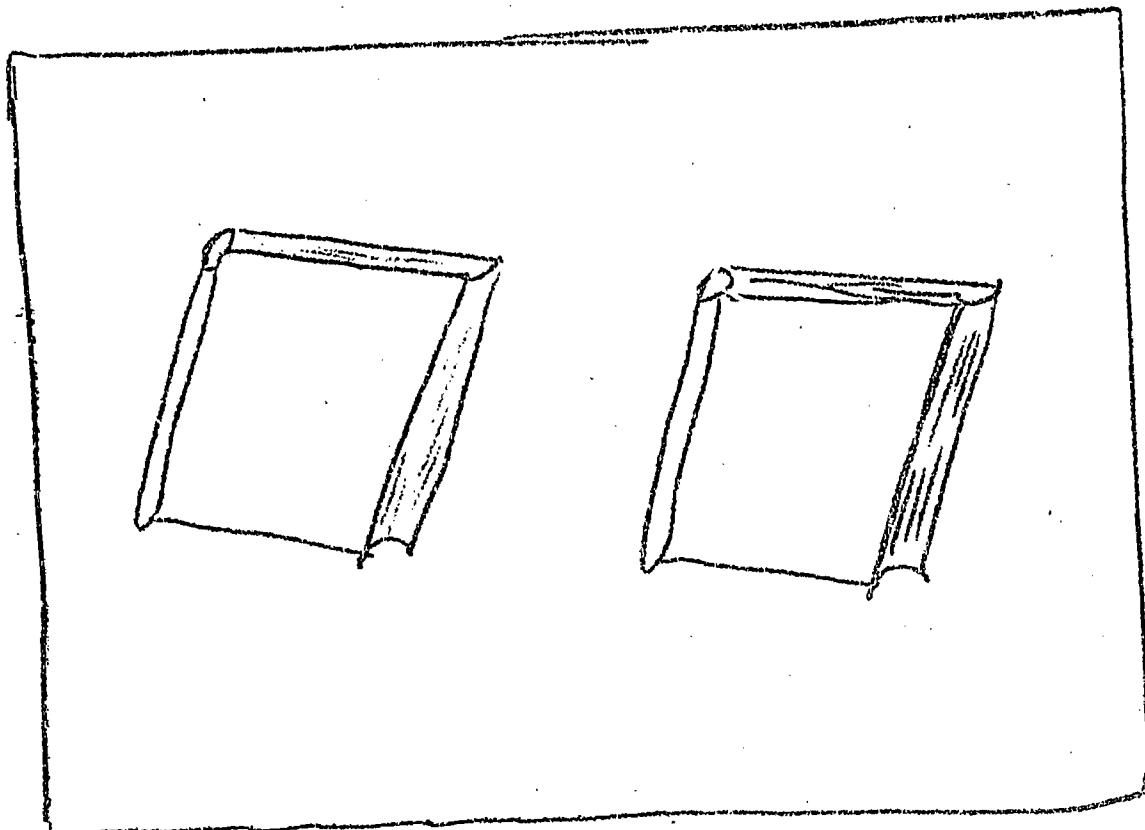
107



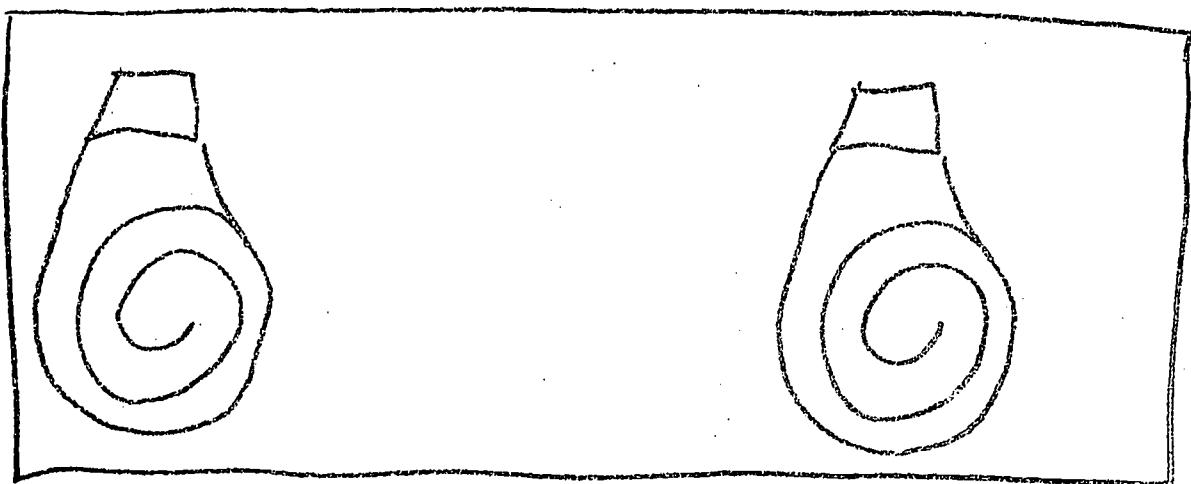
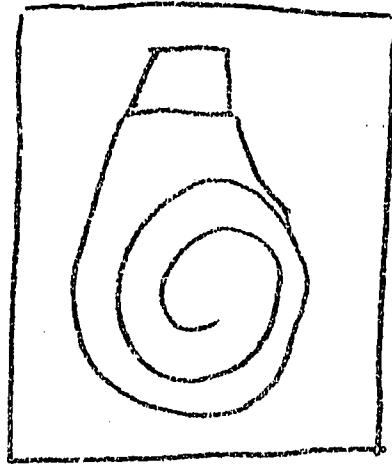




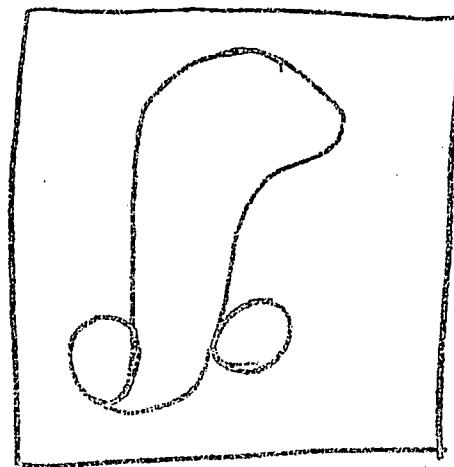
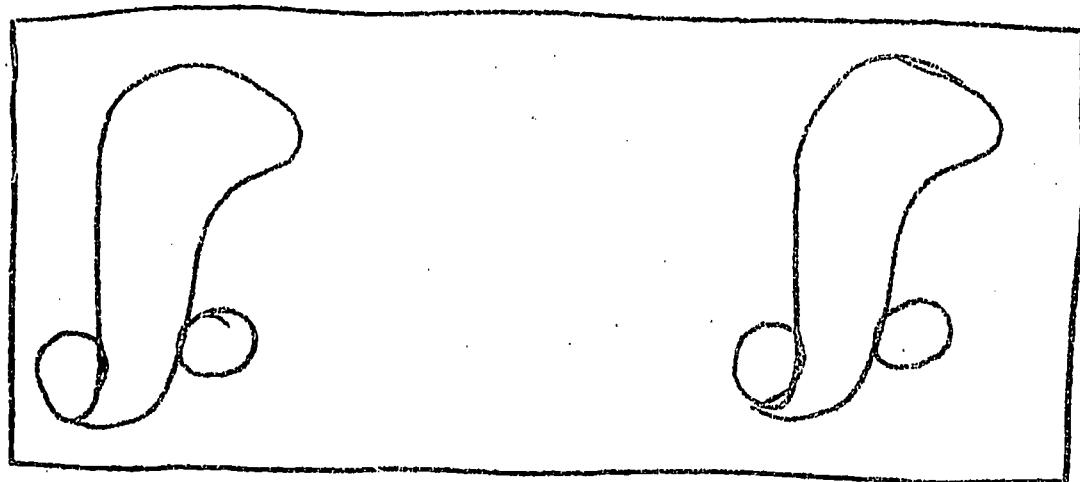
3.
op.
or.

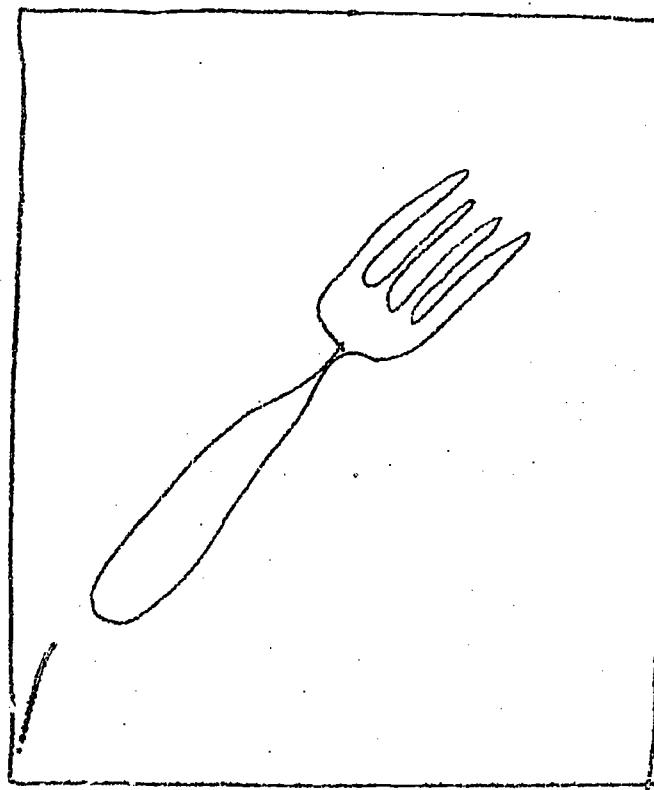
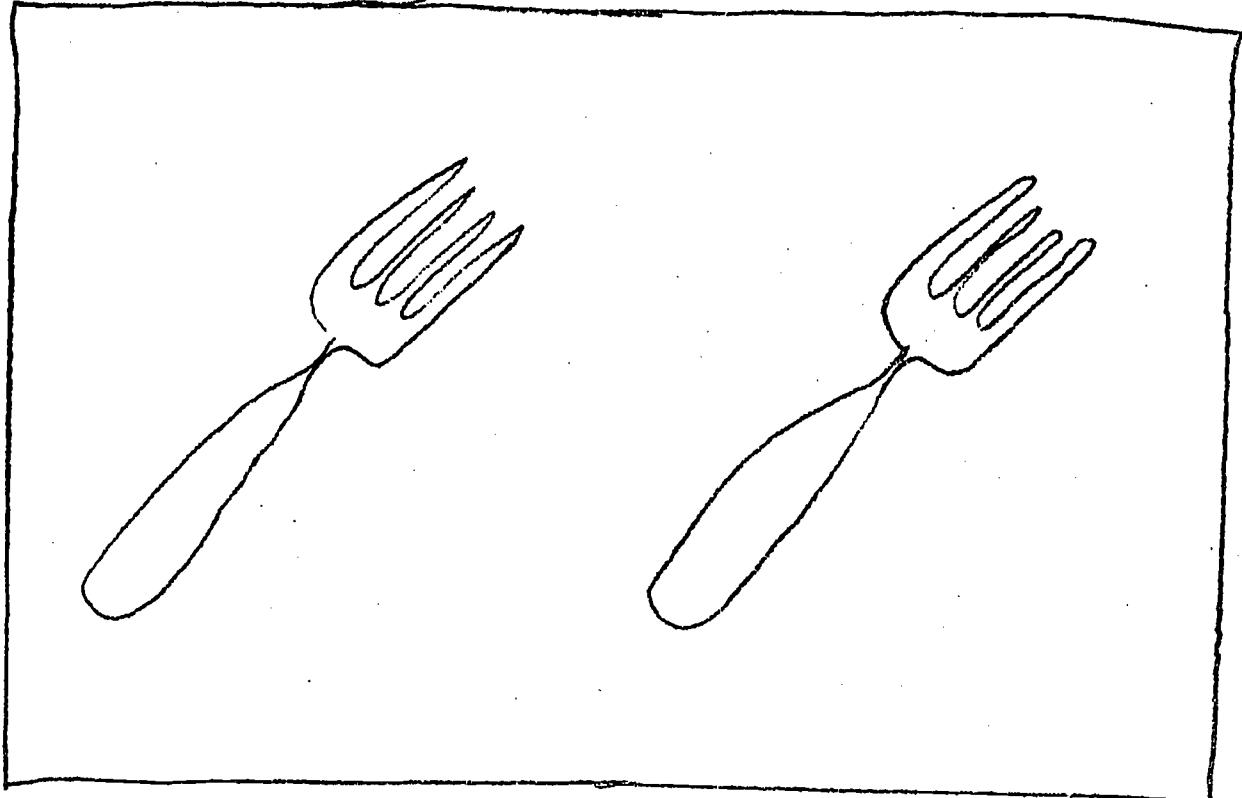


48
OP

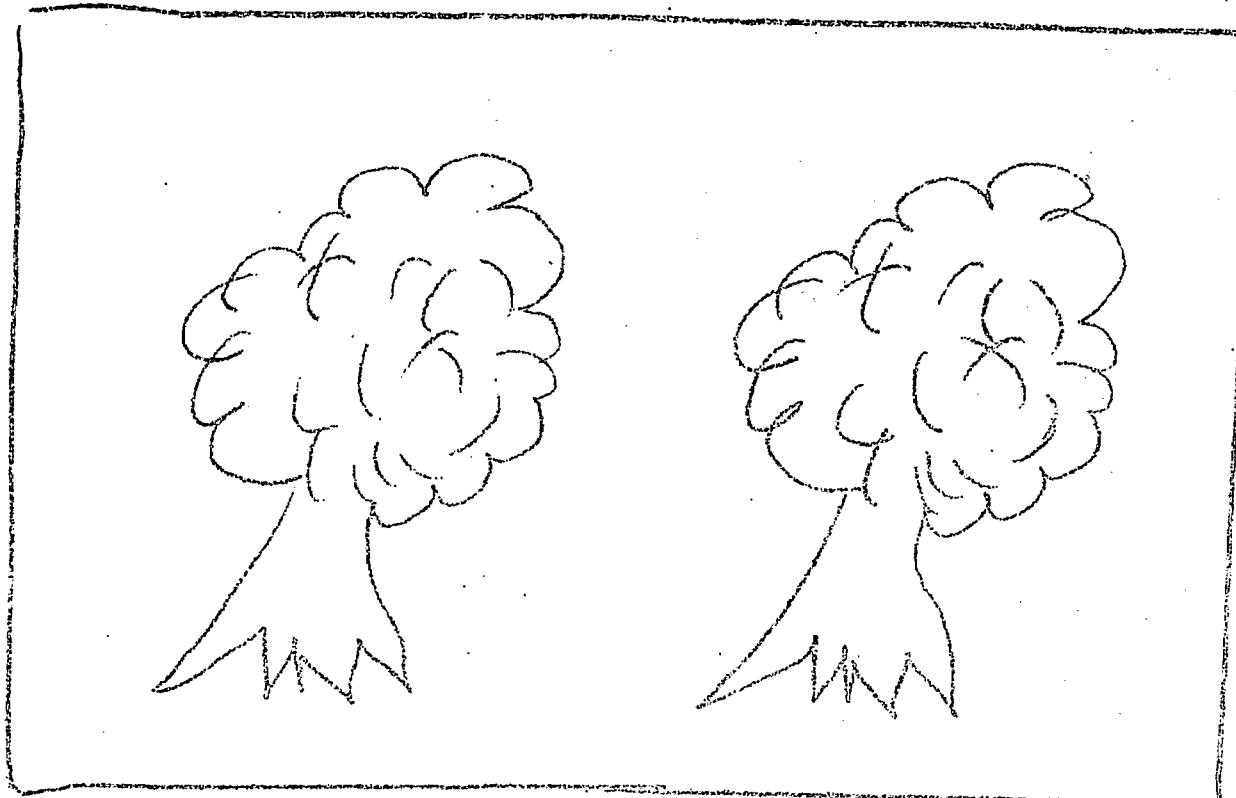


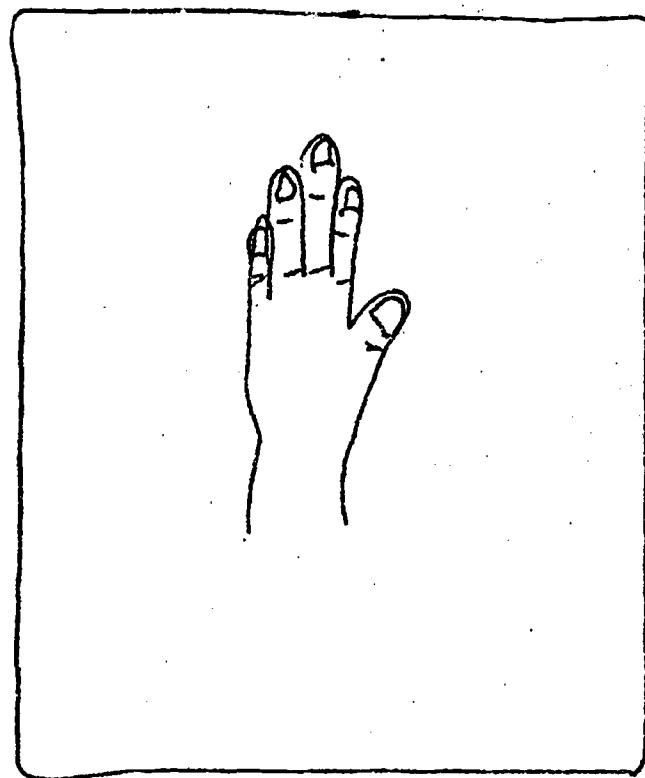
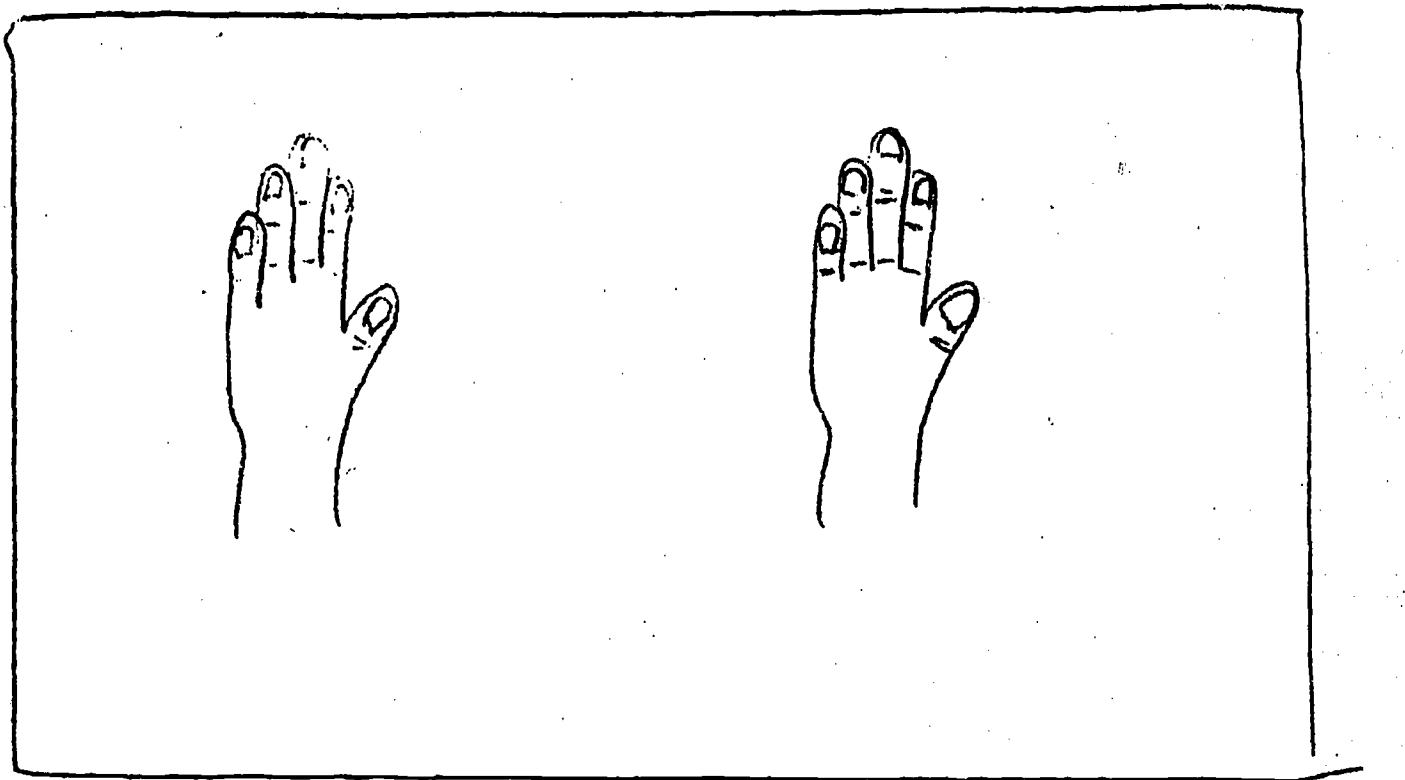
21
SP



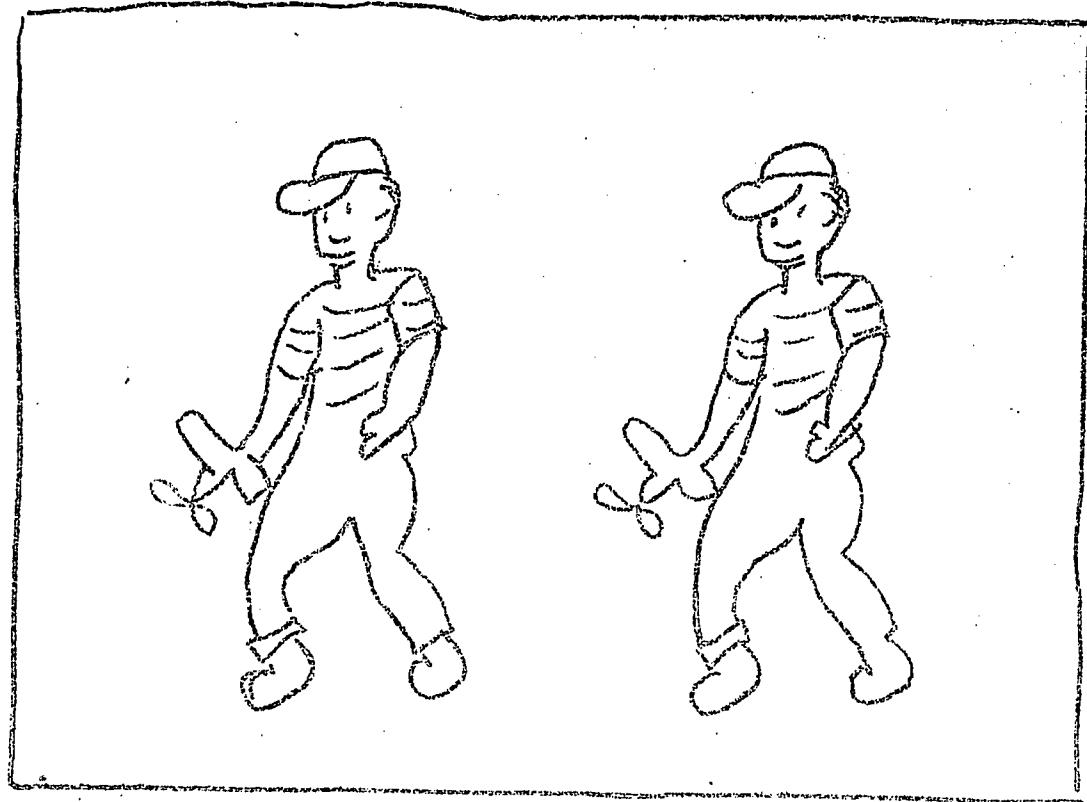
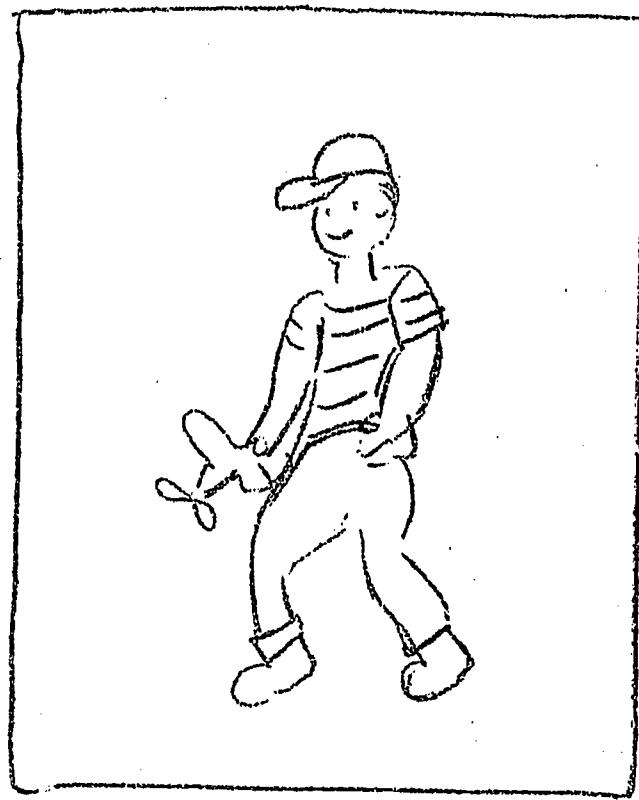


Test 3 - Production Task

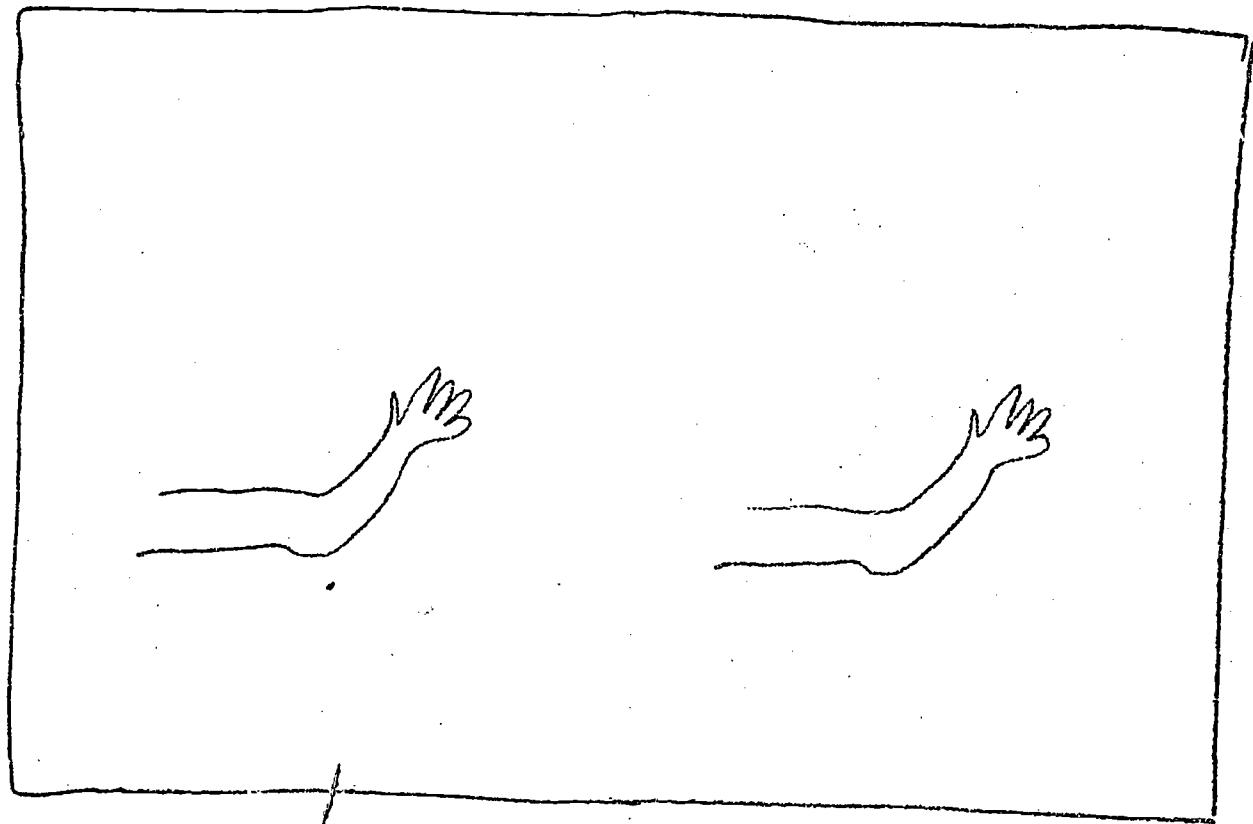
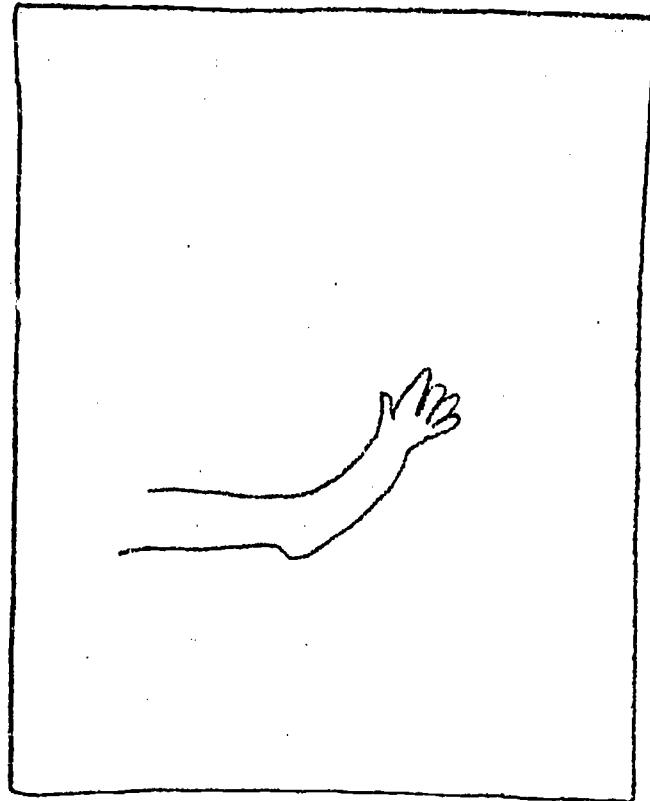




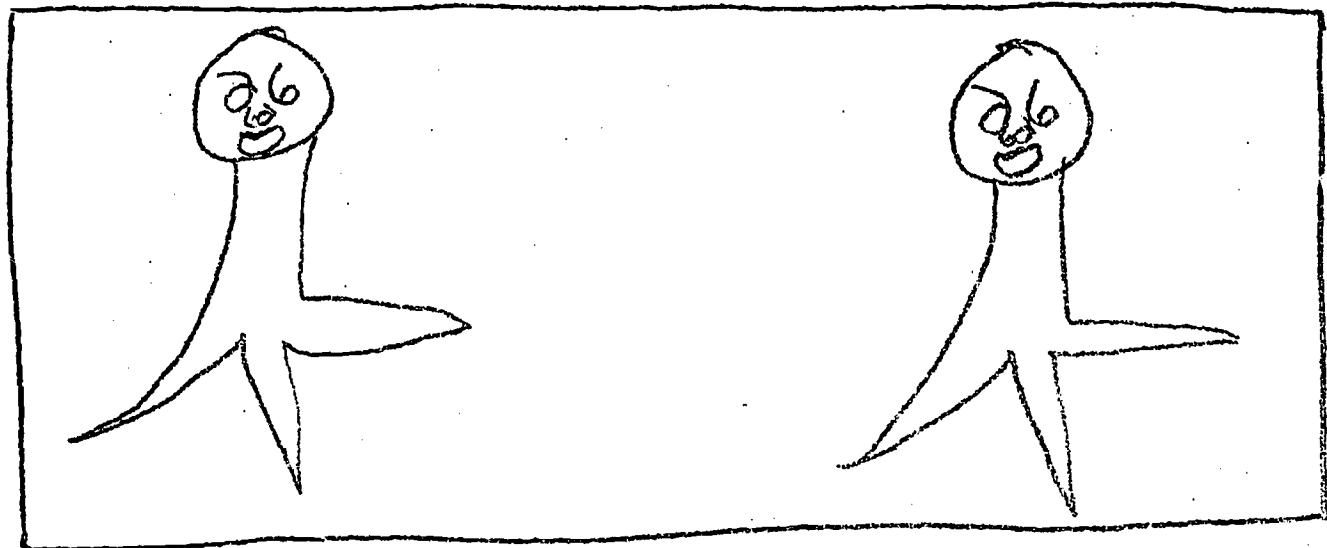
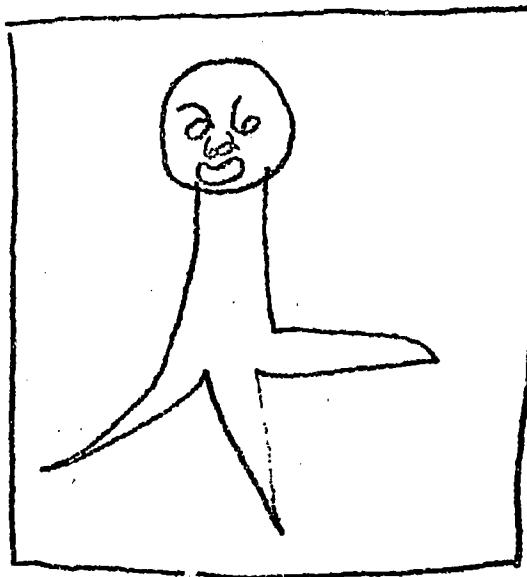
18
DP



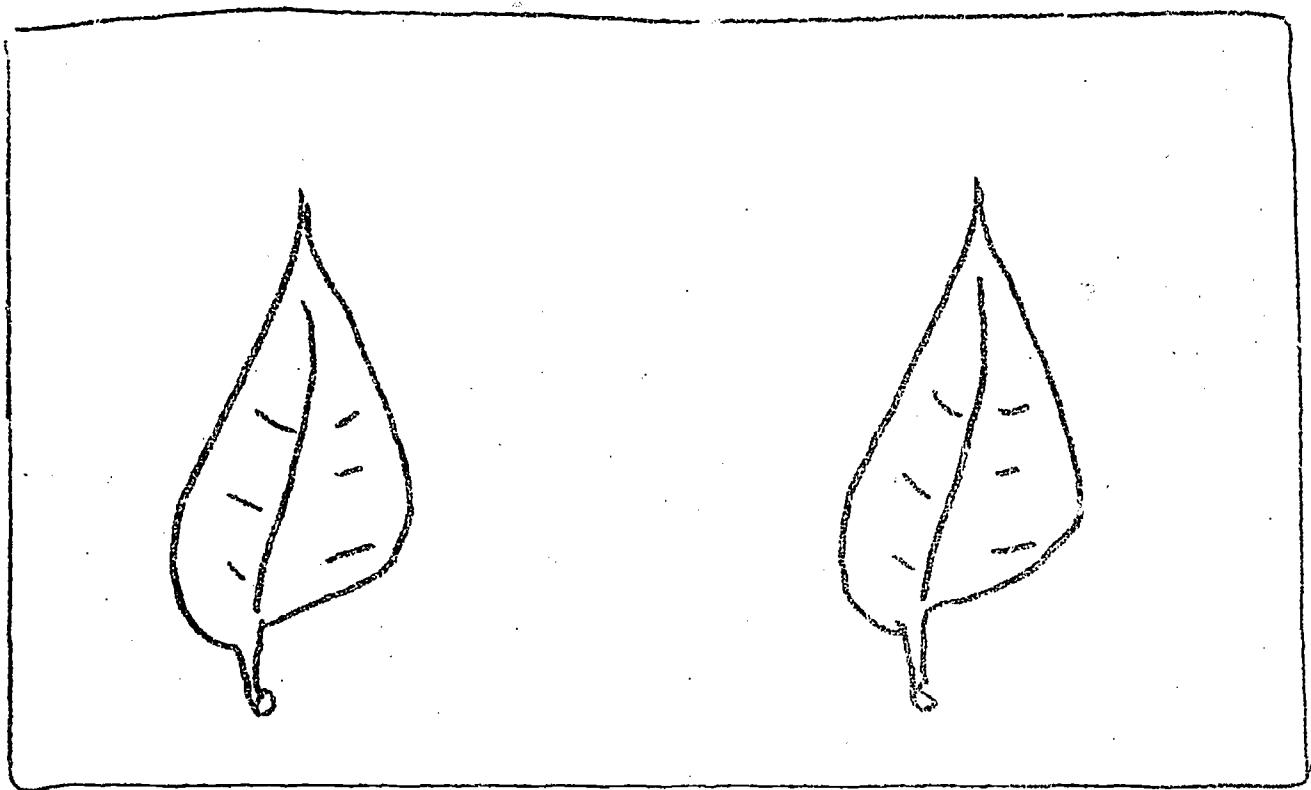
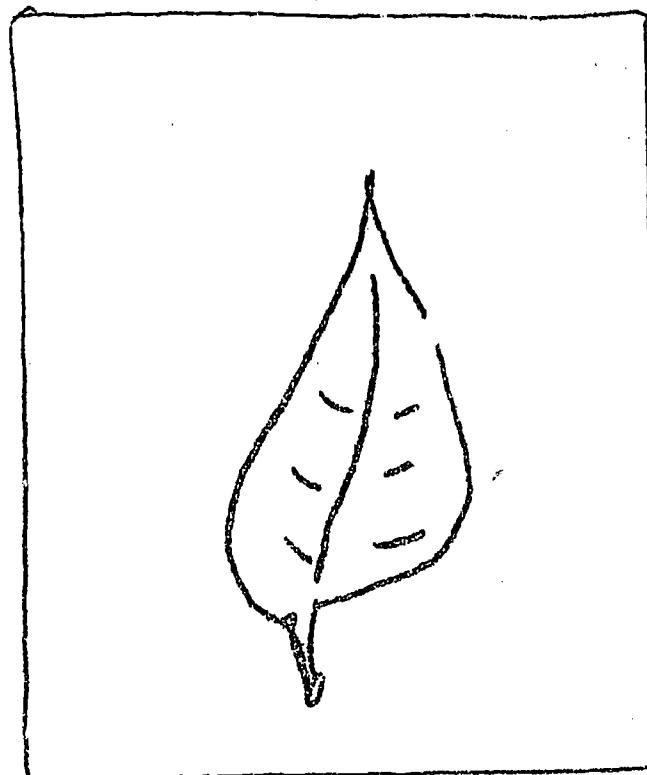
K
OP
OR



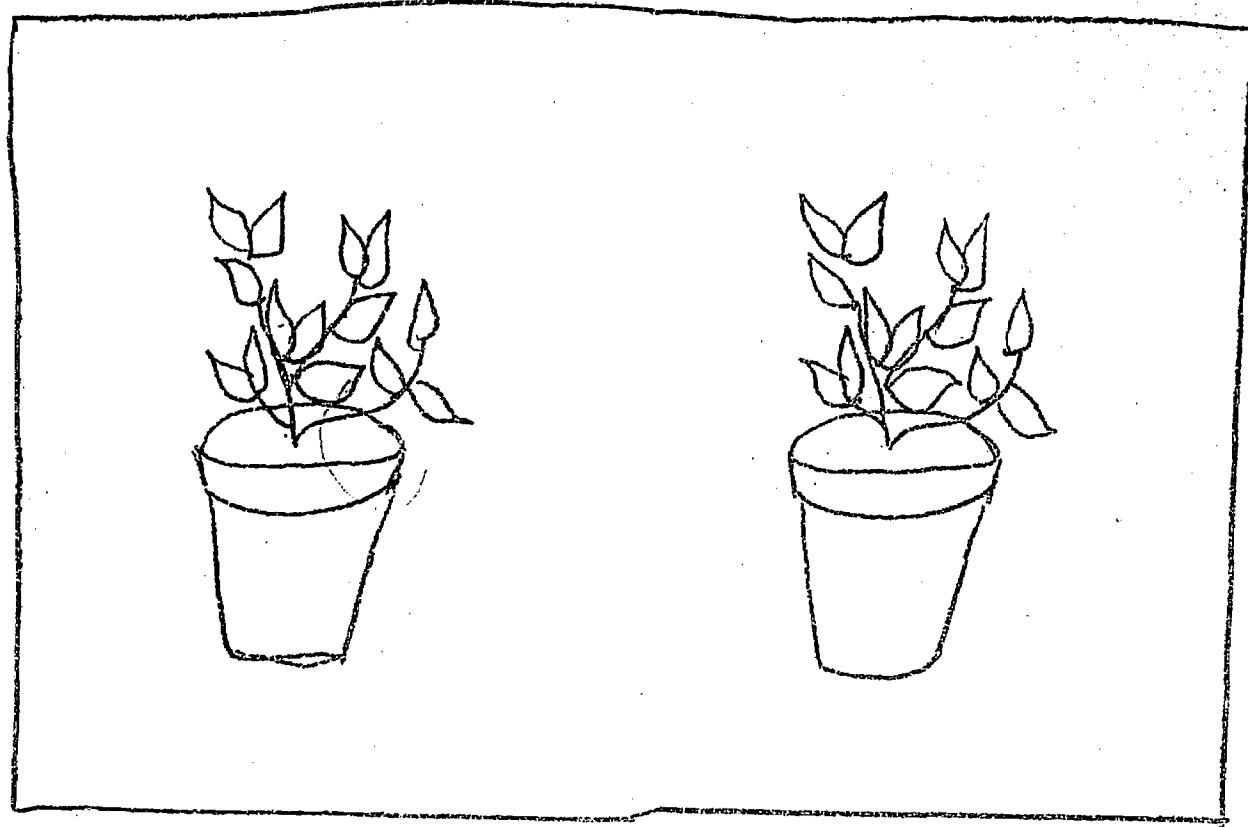
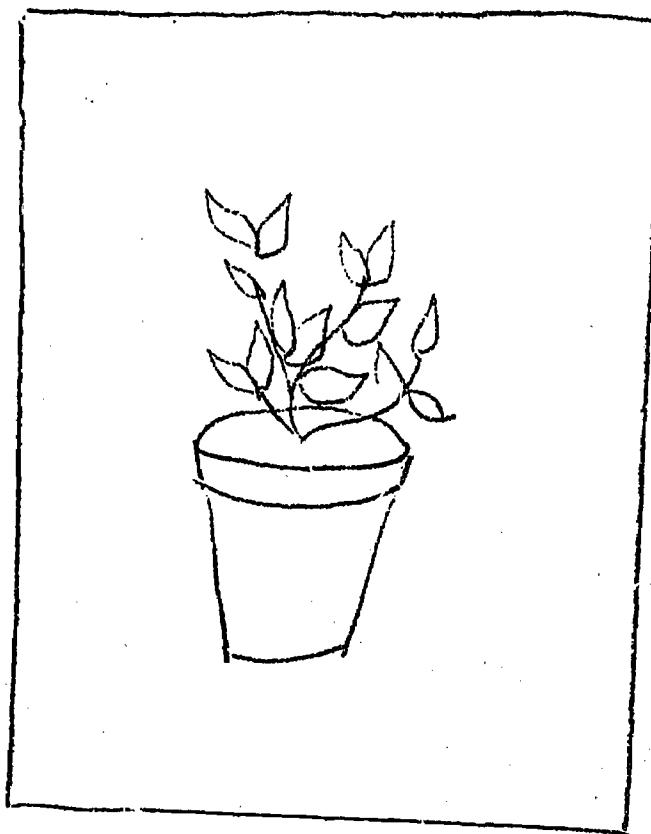
31
OP

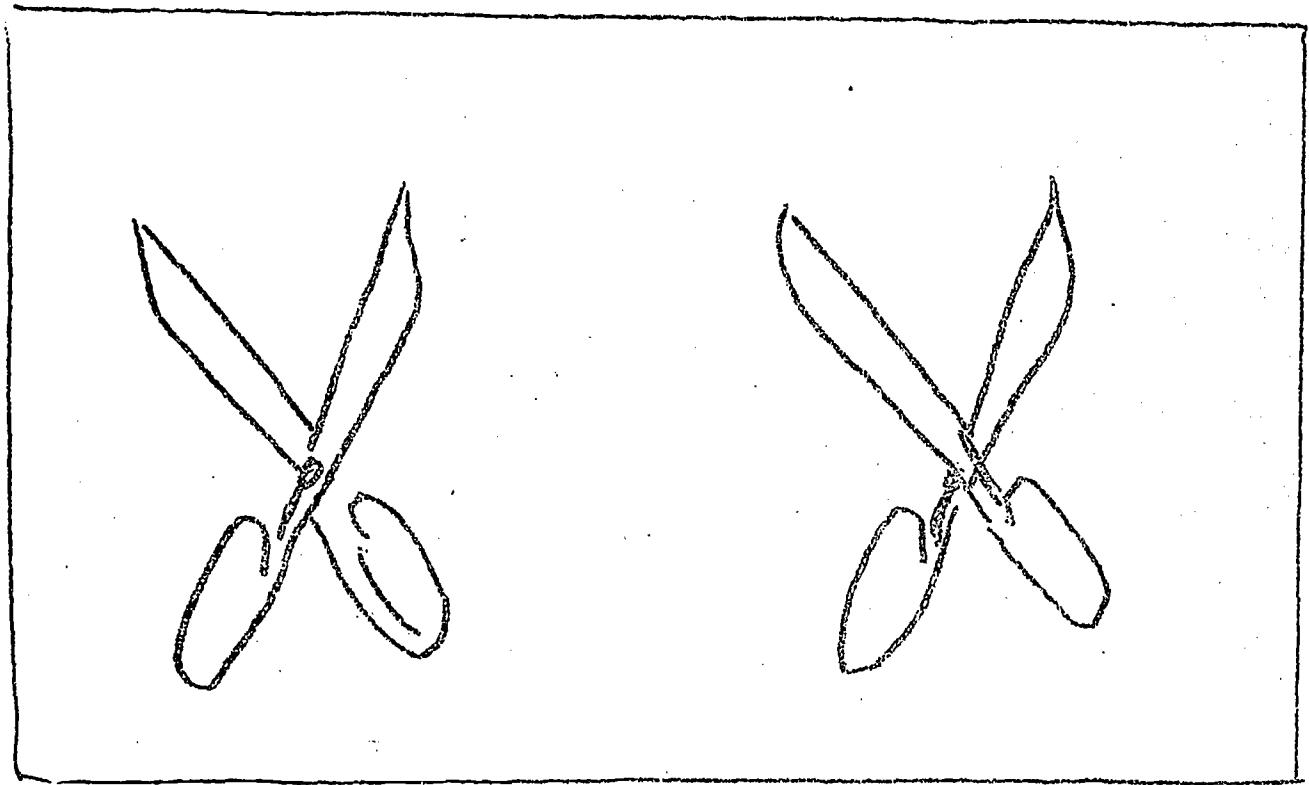
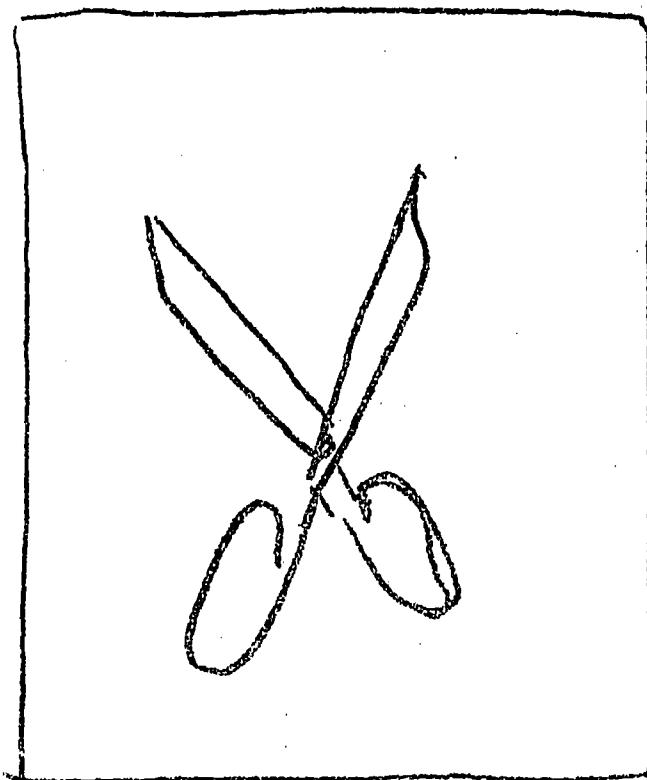


98

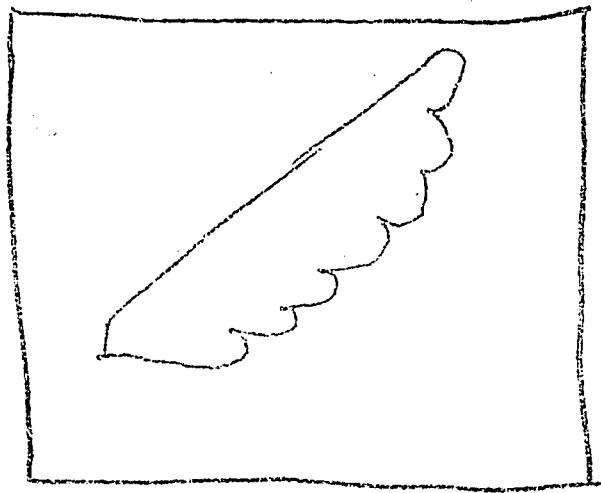
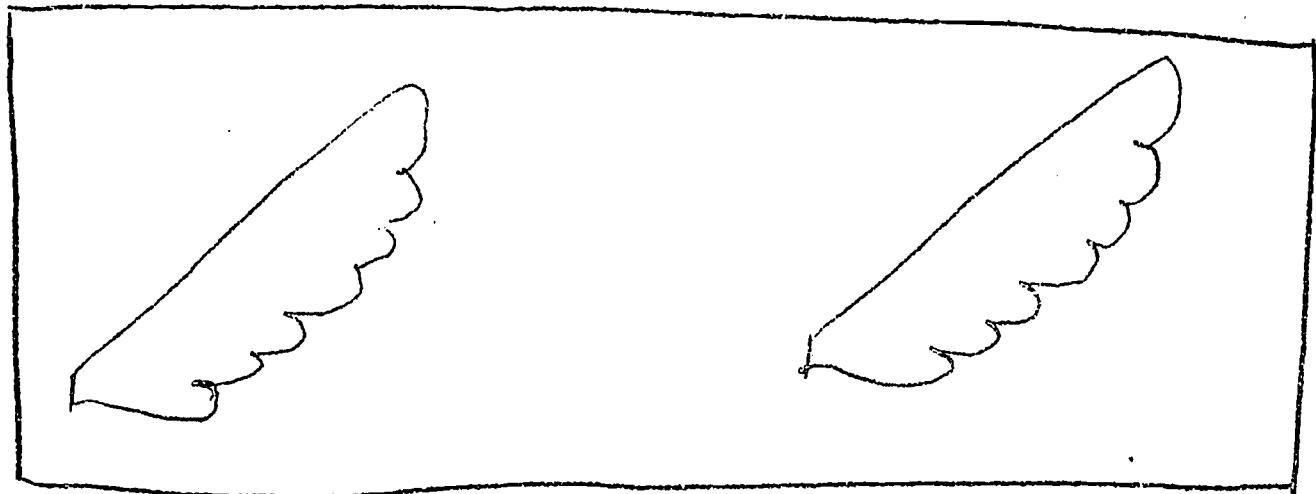


41
OP
R

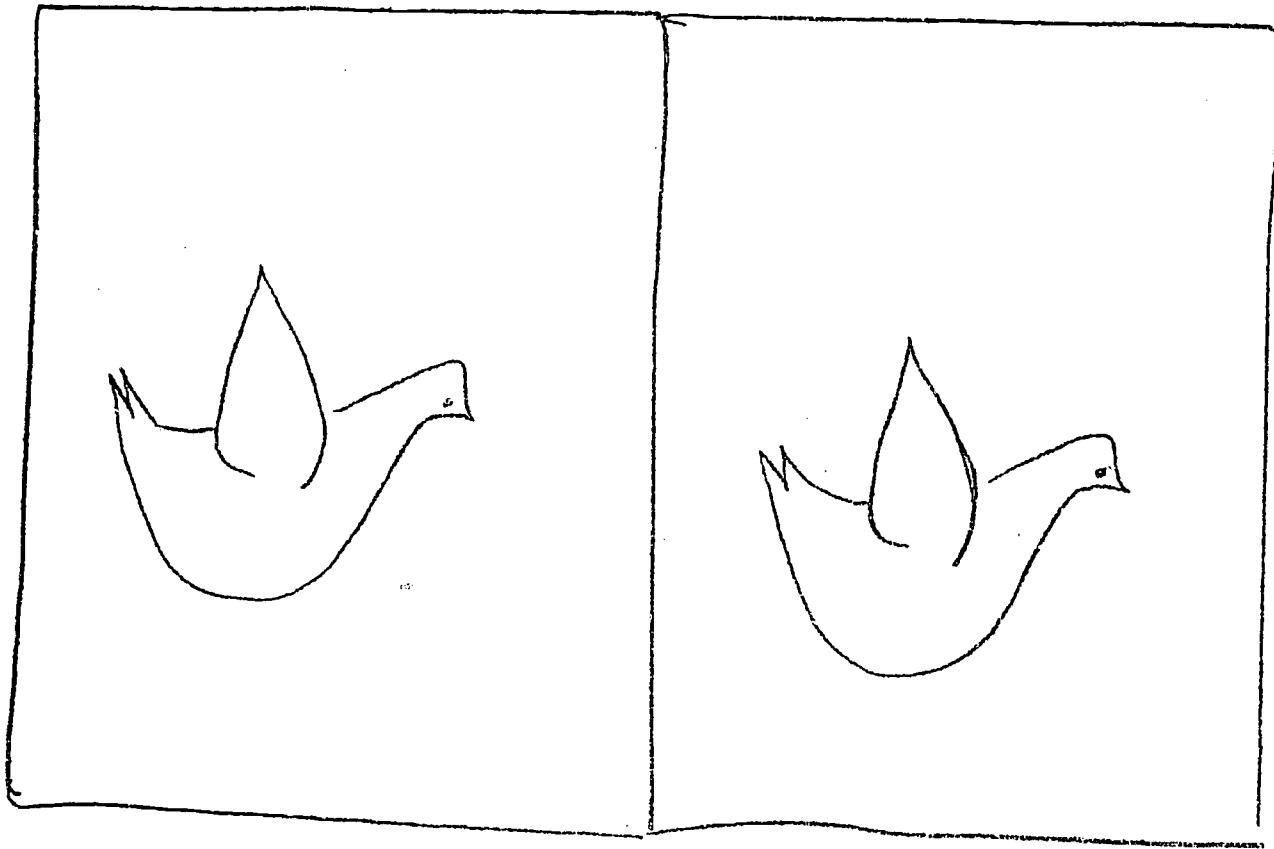
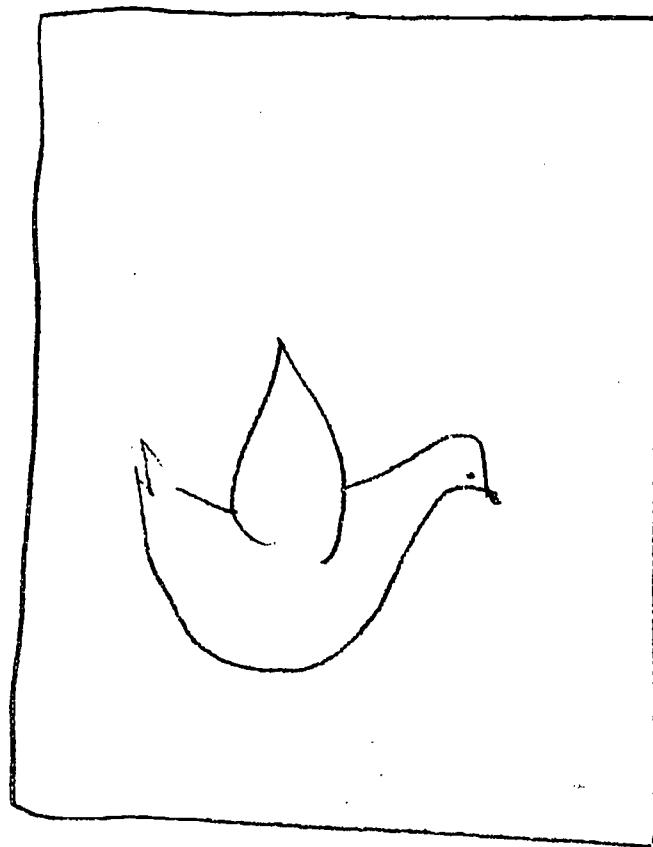




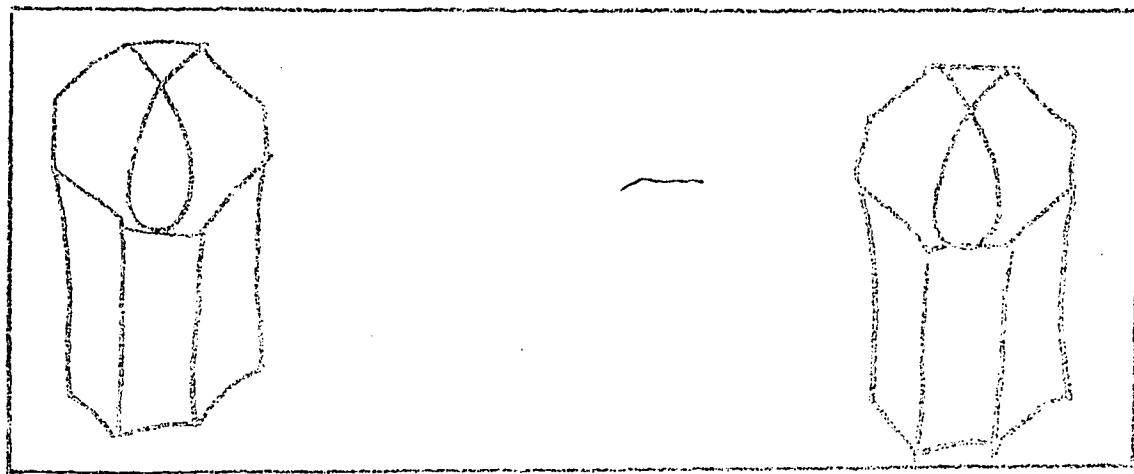
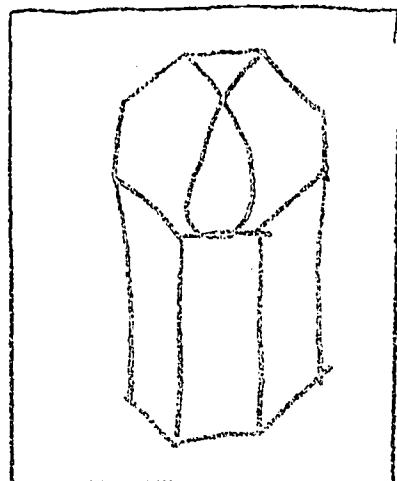
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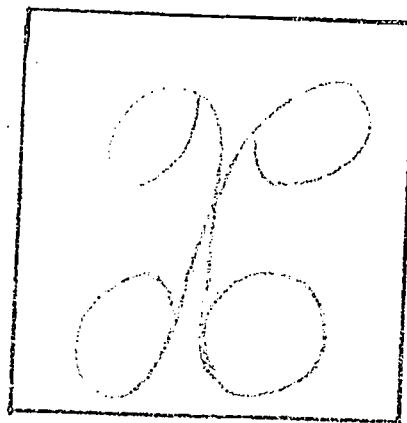
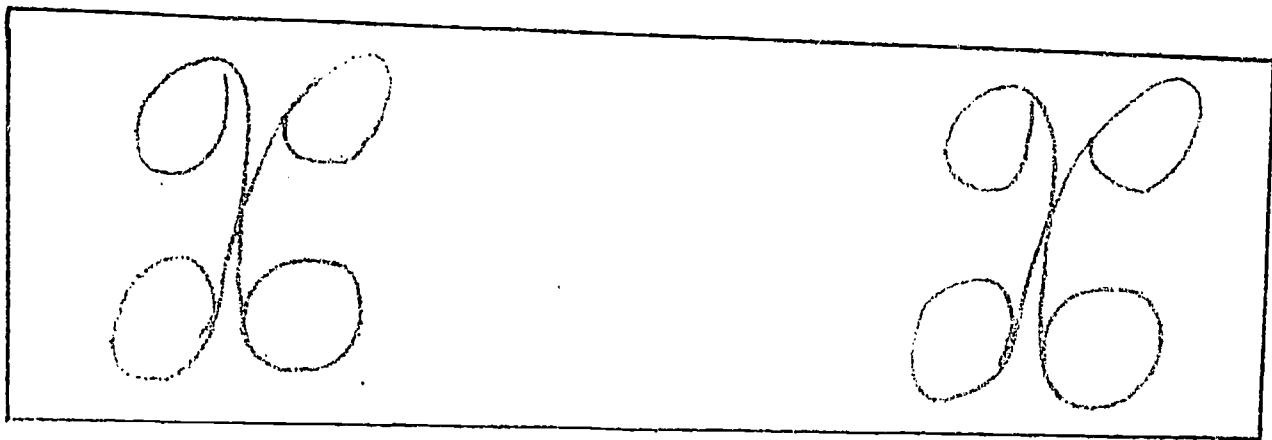
51
OP
OR

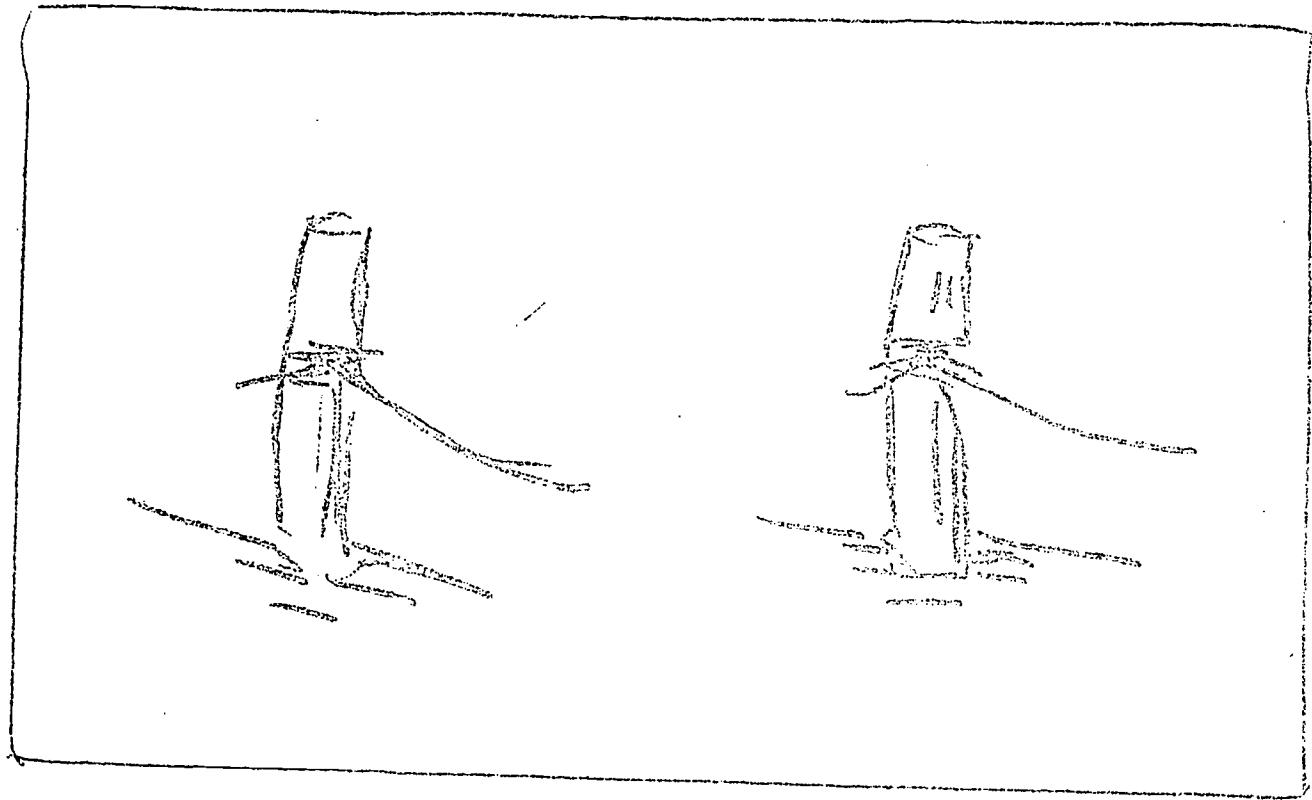
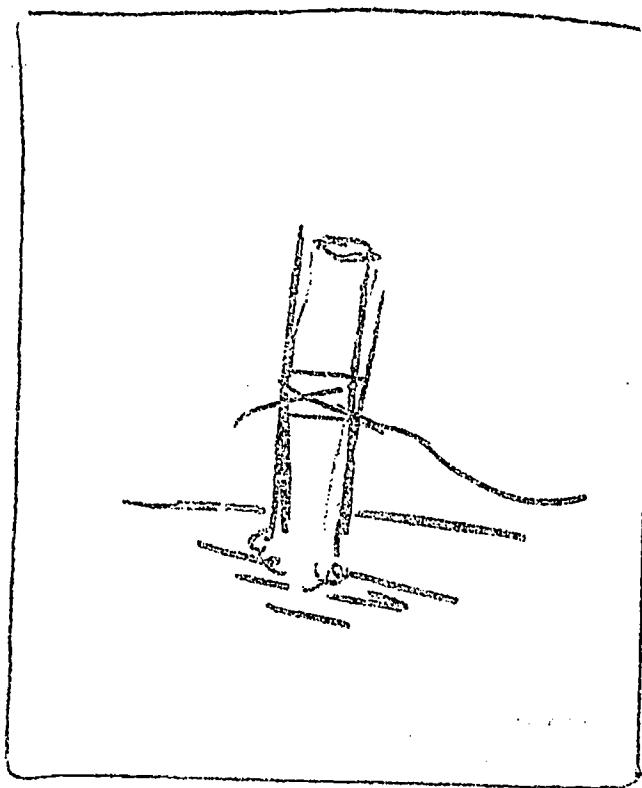


70

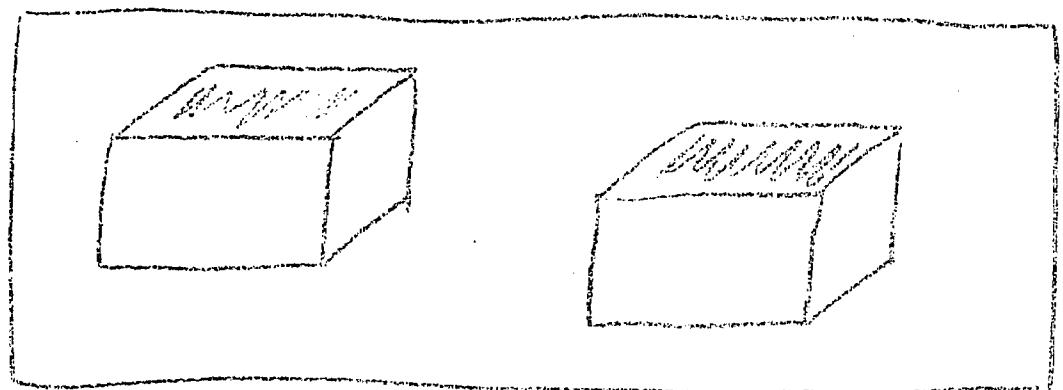
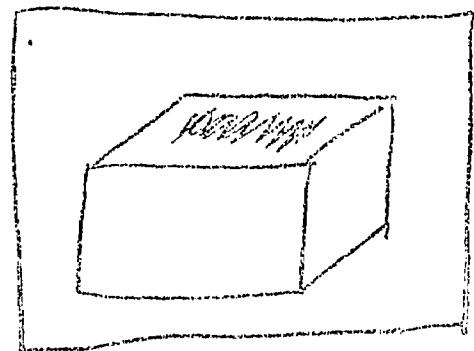


109

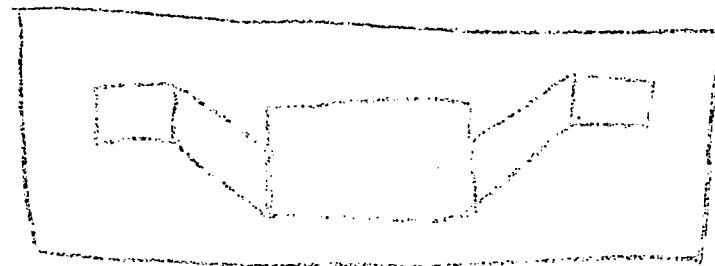
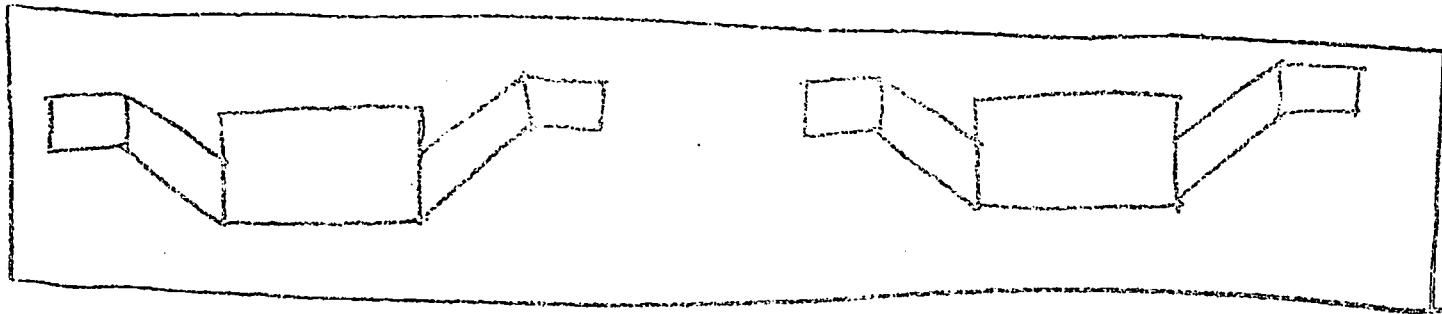


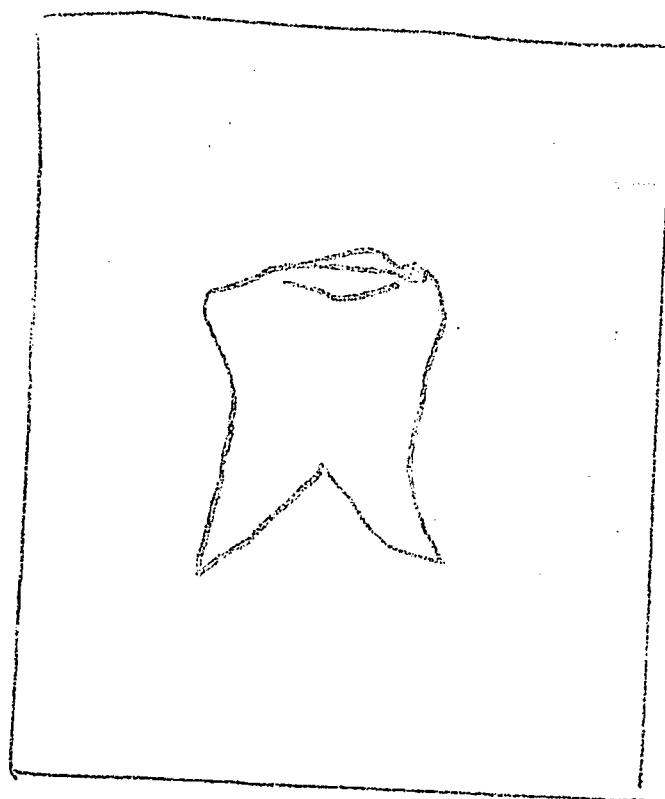
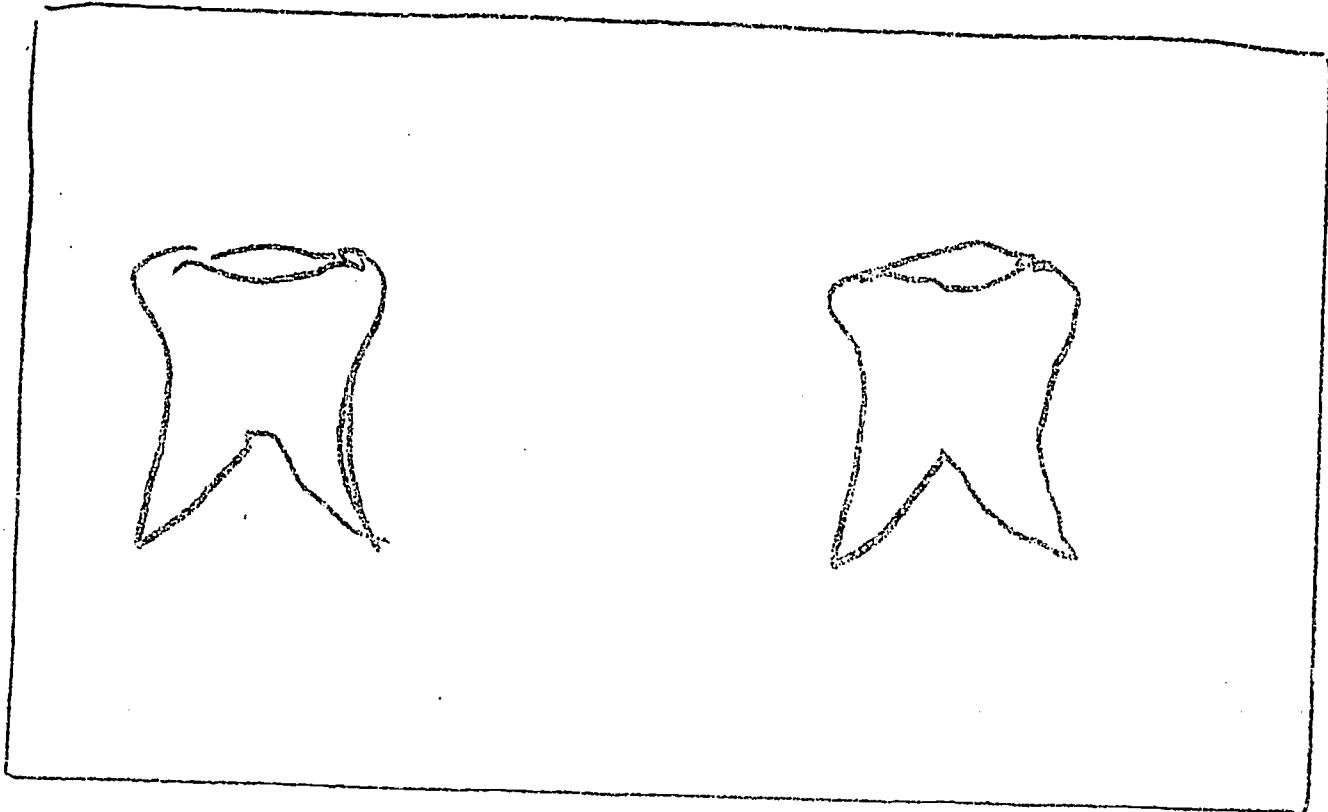


25
OP
OR

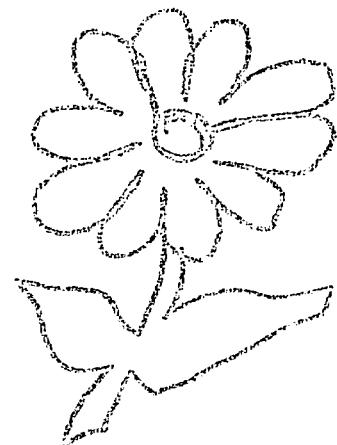
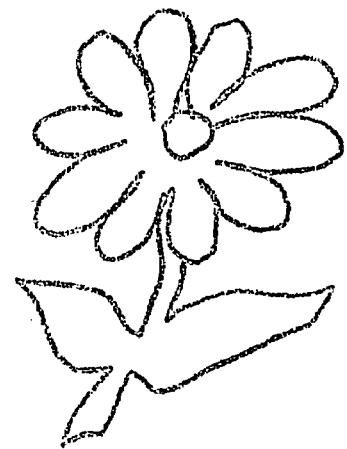
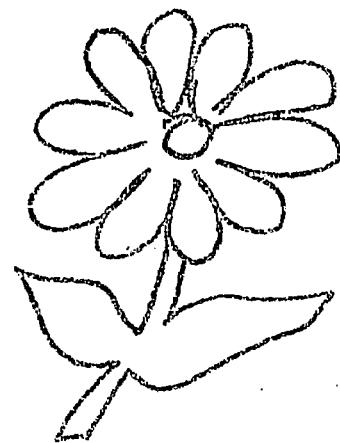


16.
op

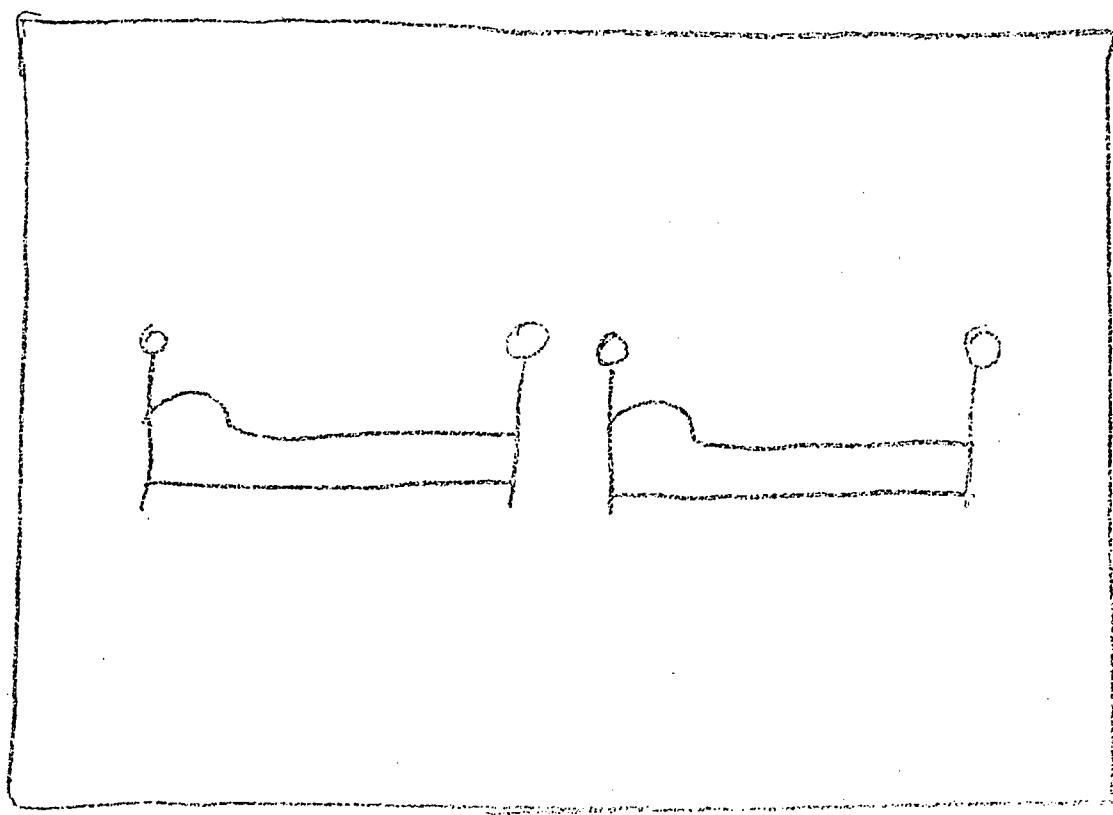
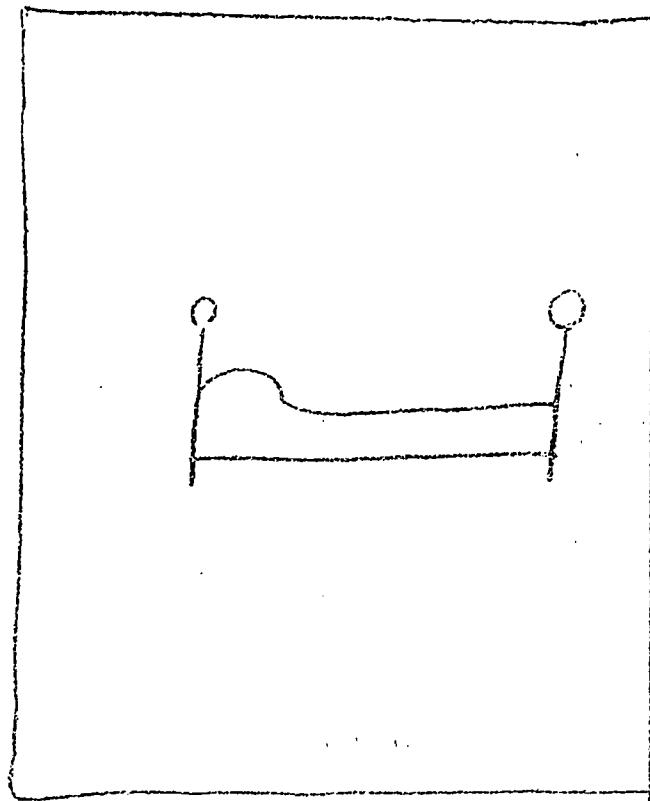




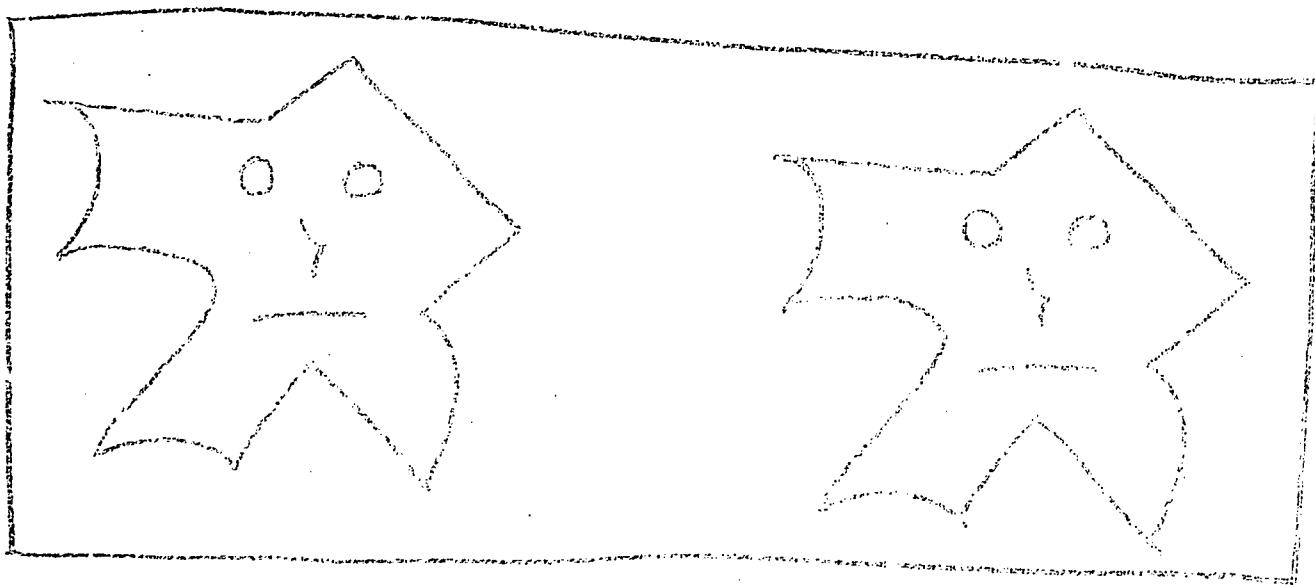
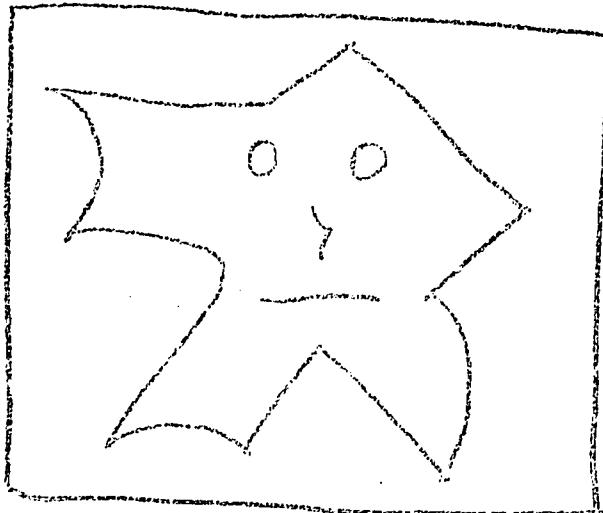
73
OP

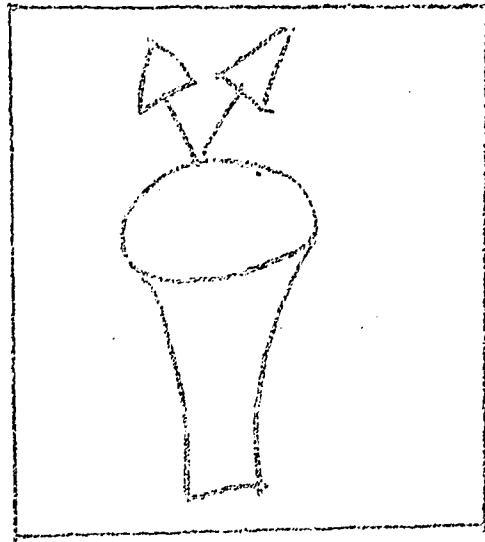
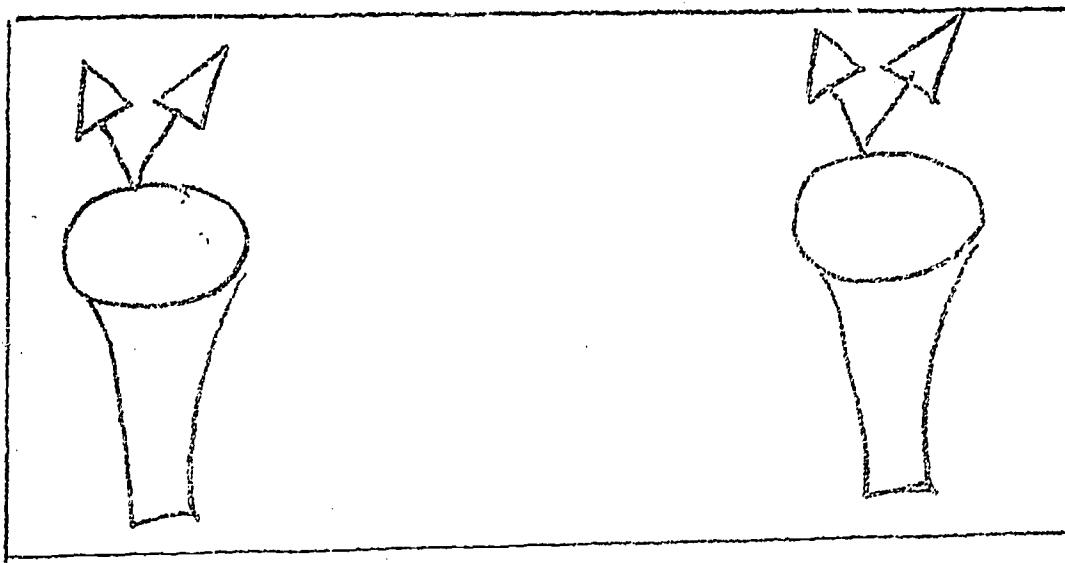


YD
OP
OR

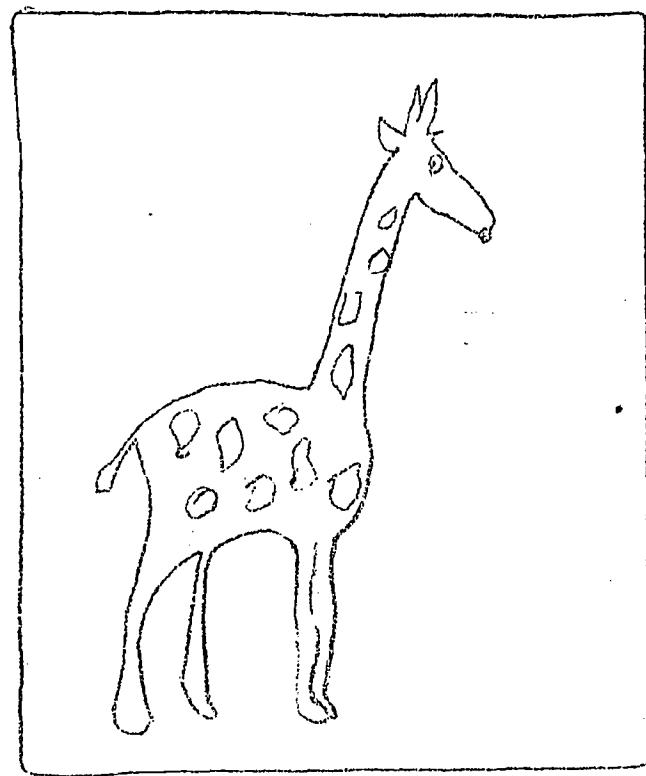
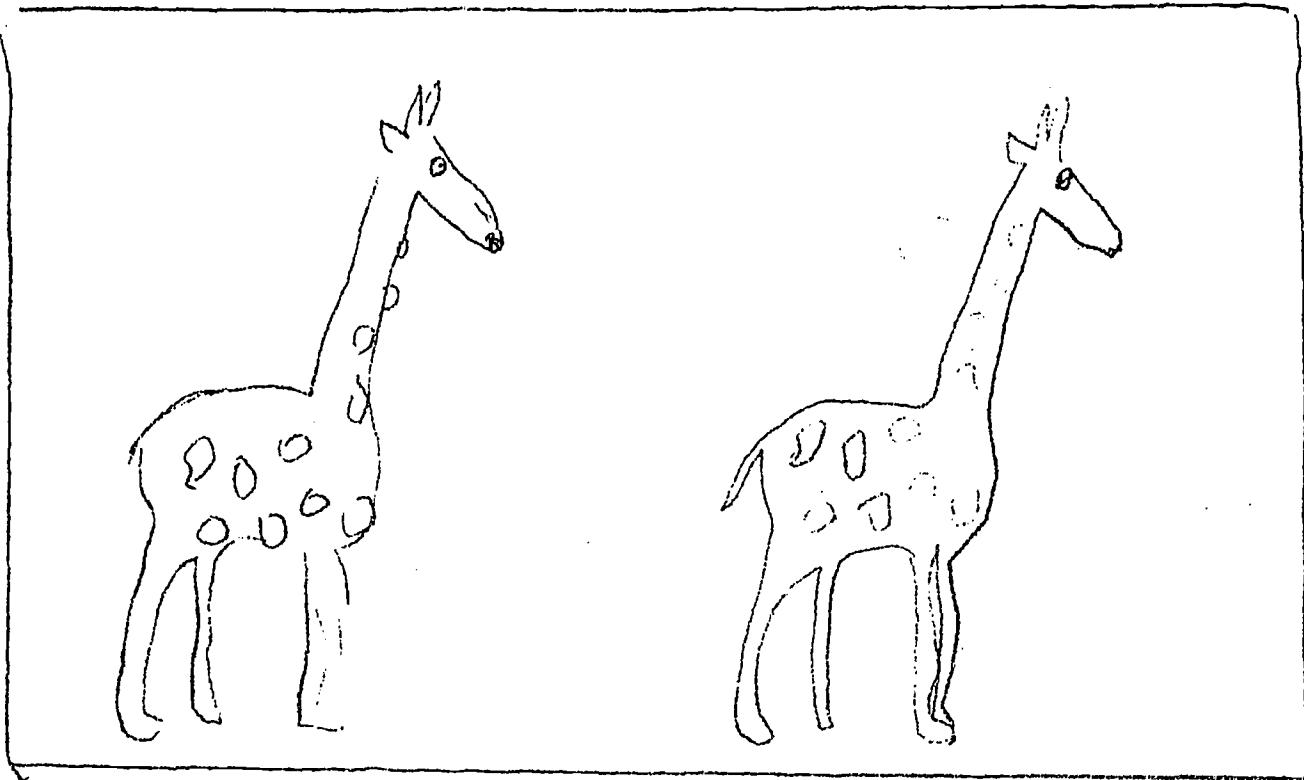


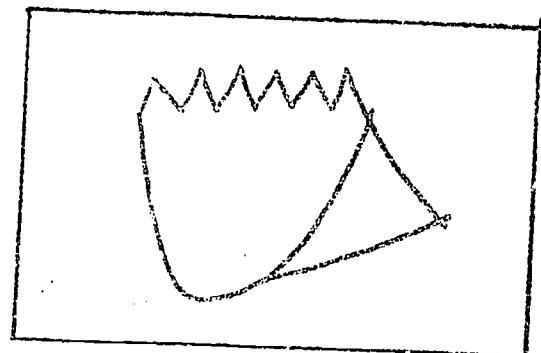
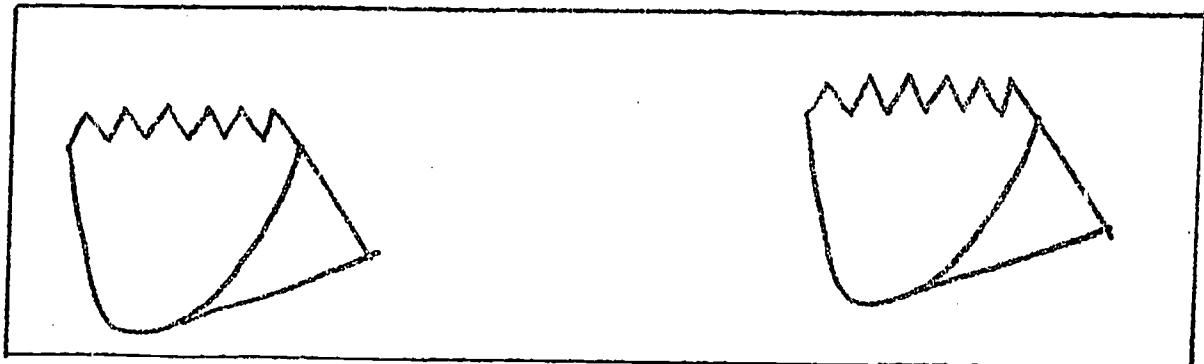
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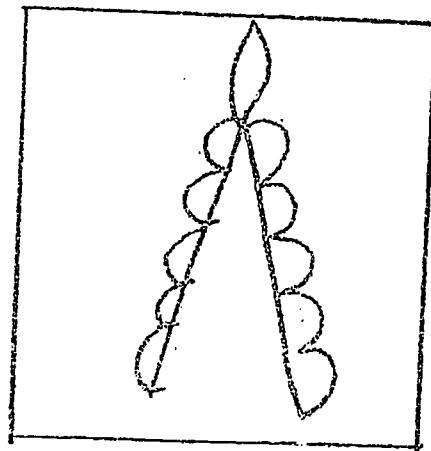
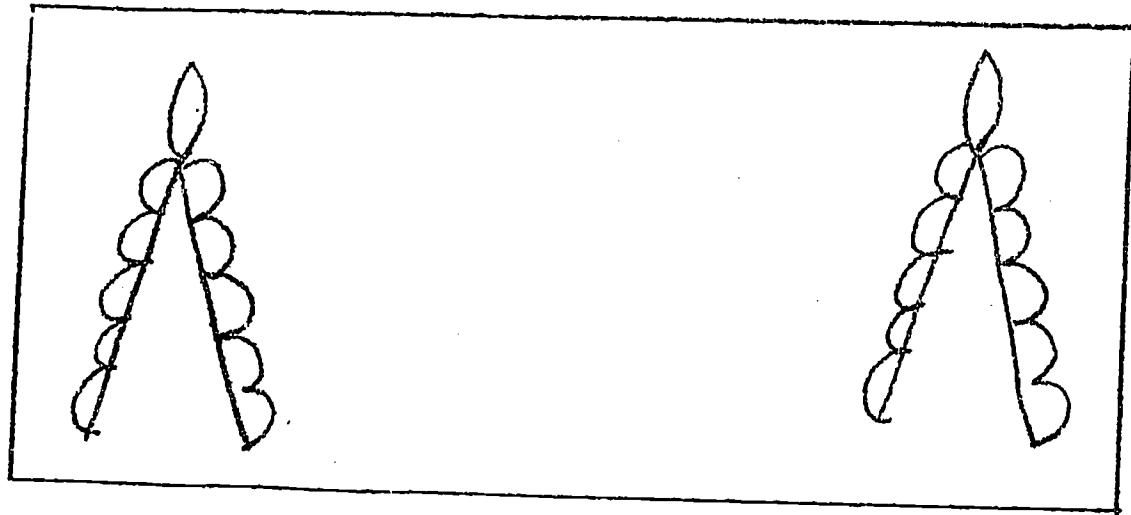


60
OP
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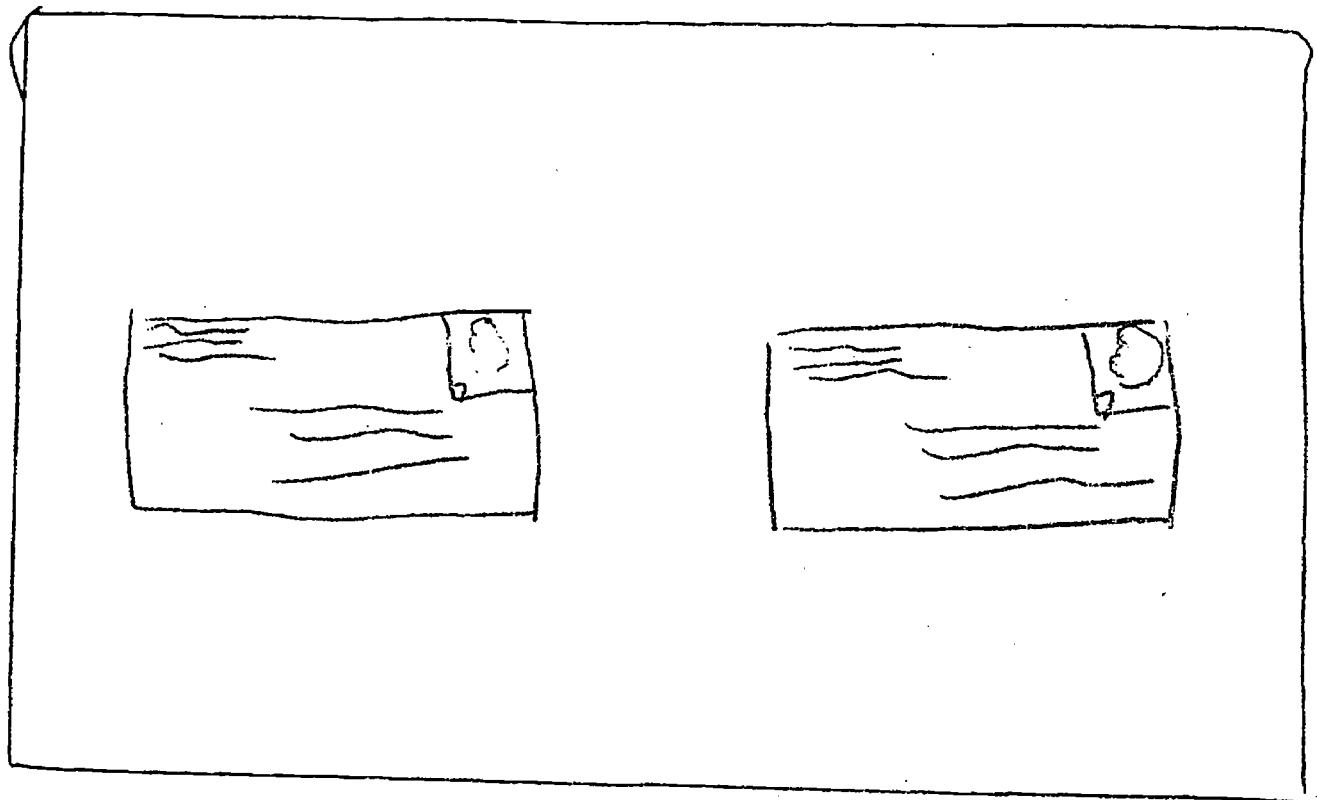
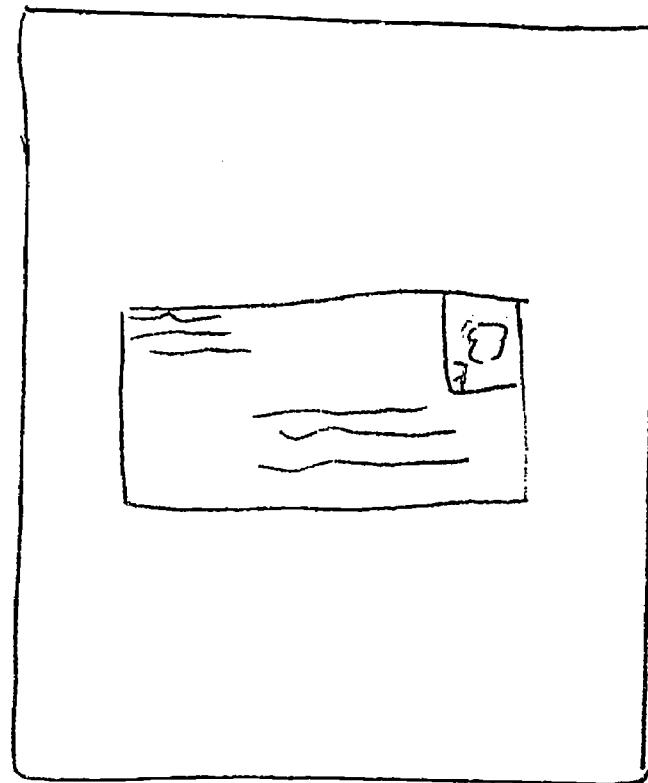




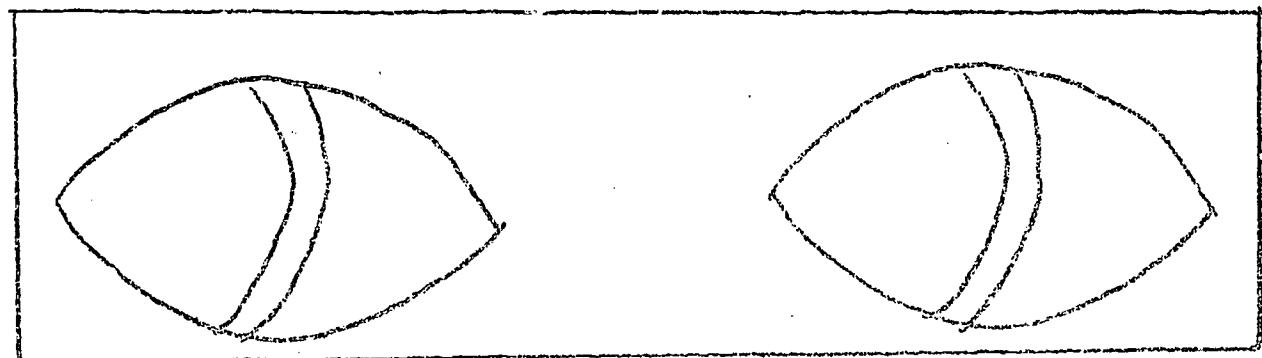
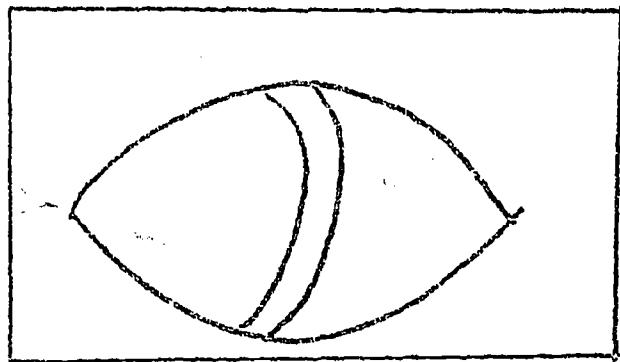
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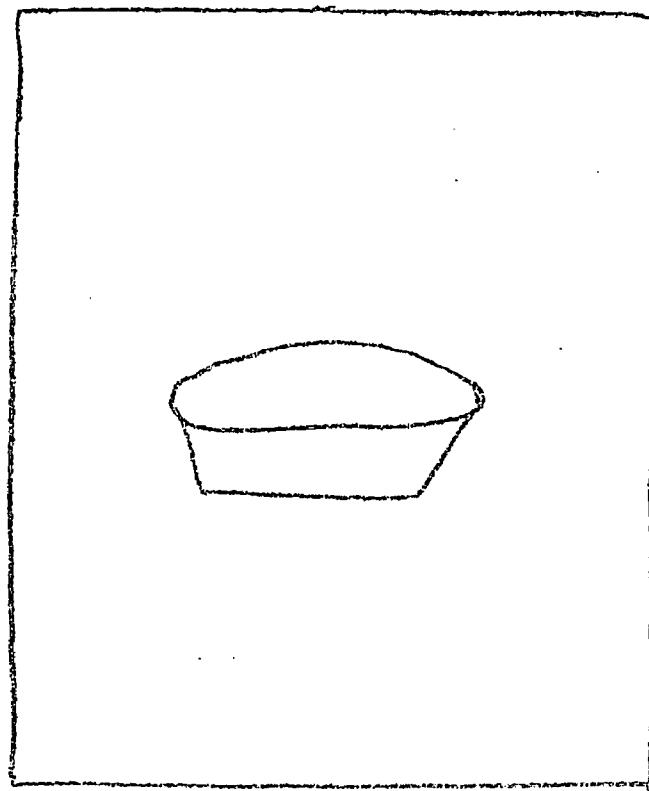
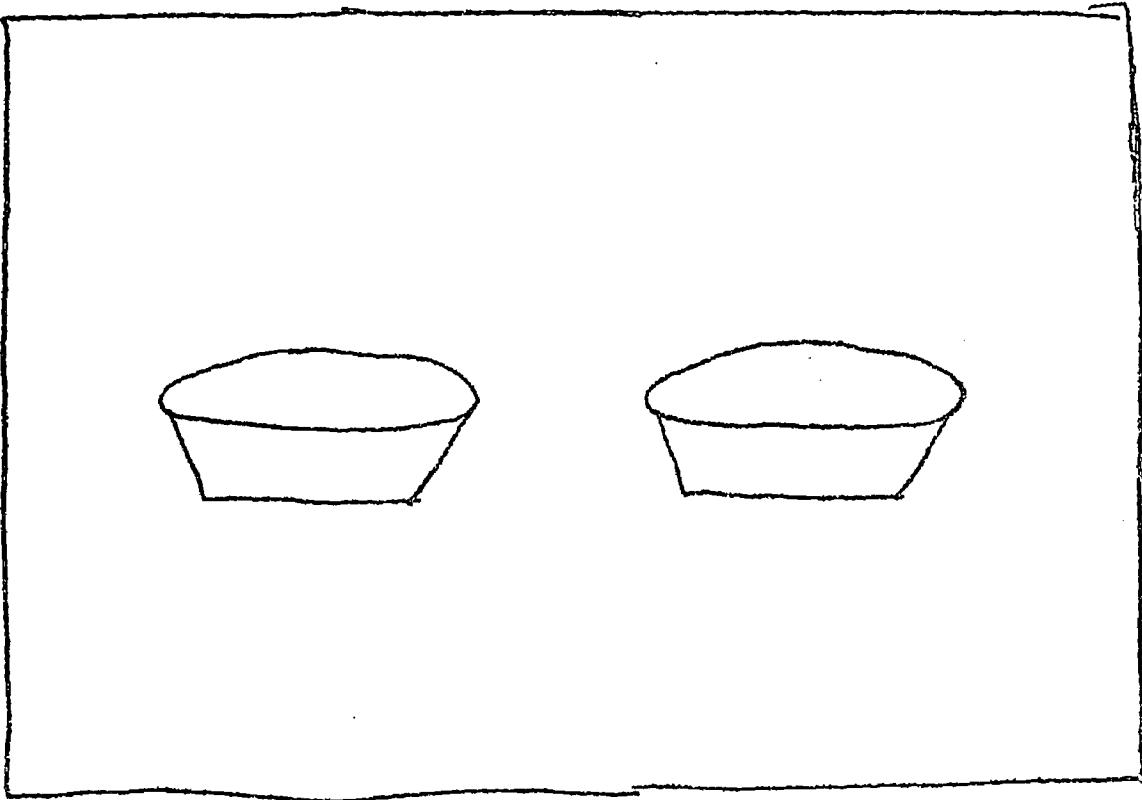
57
OP
OR

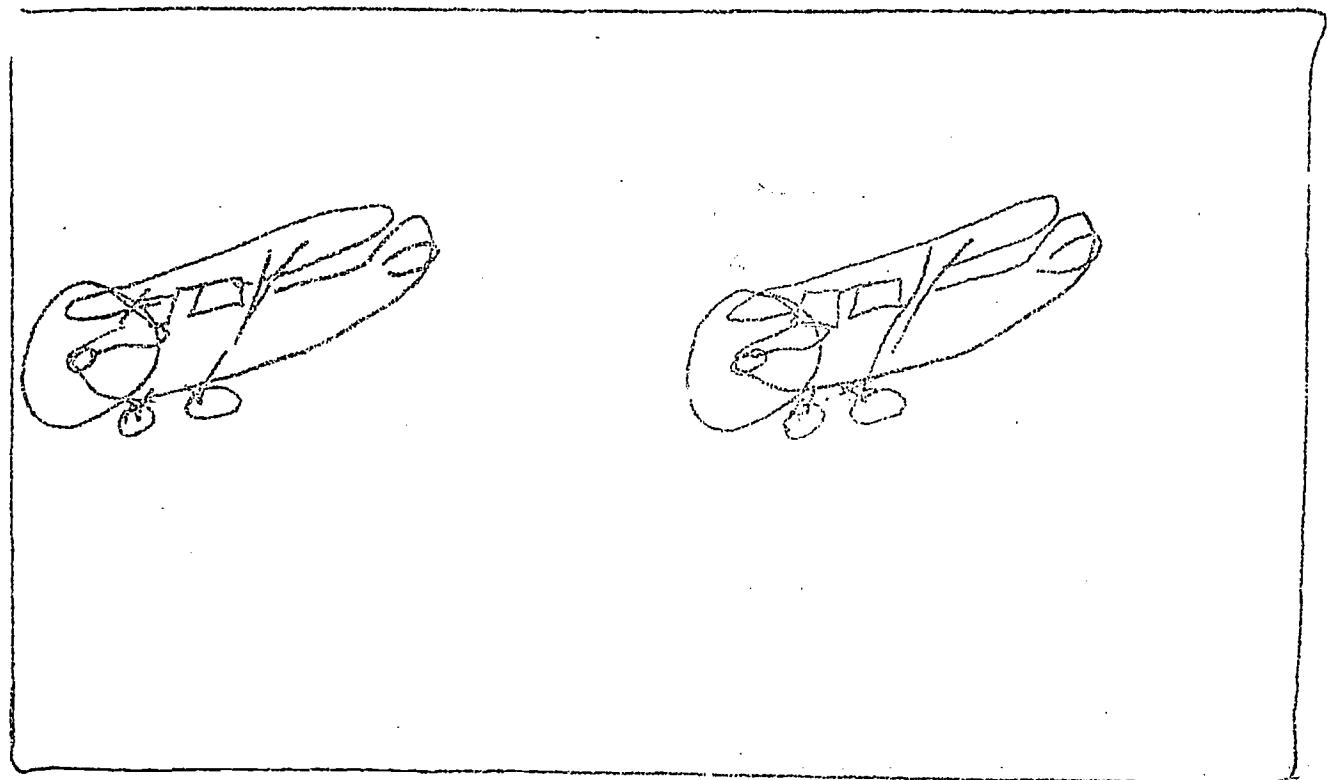
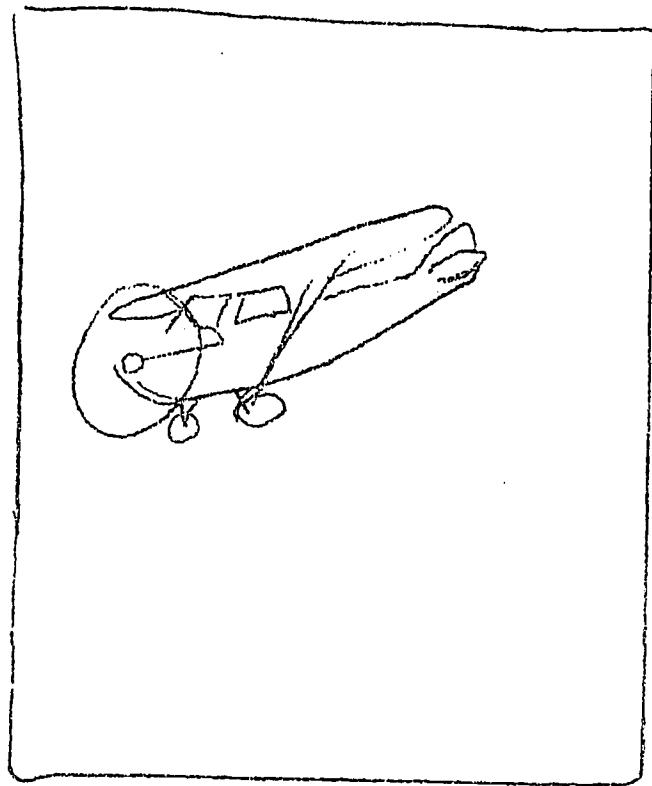


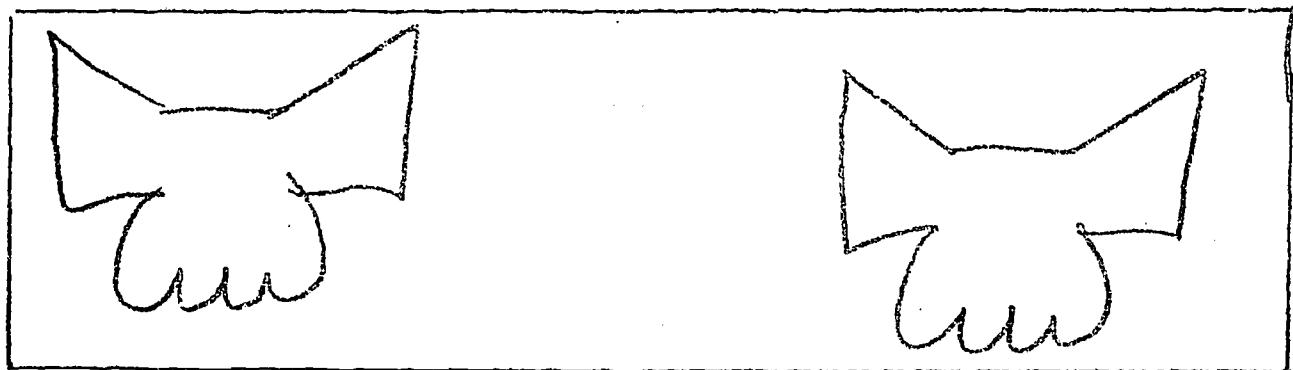
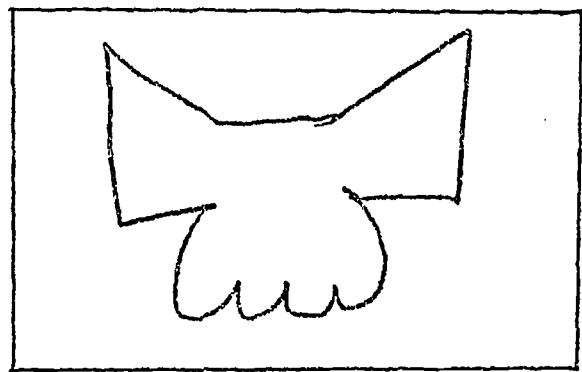
47



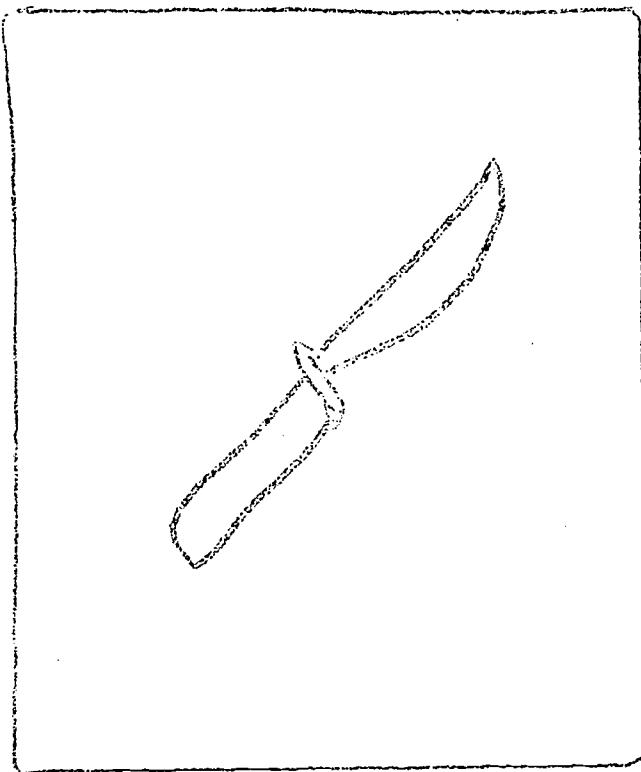
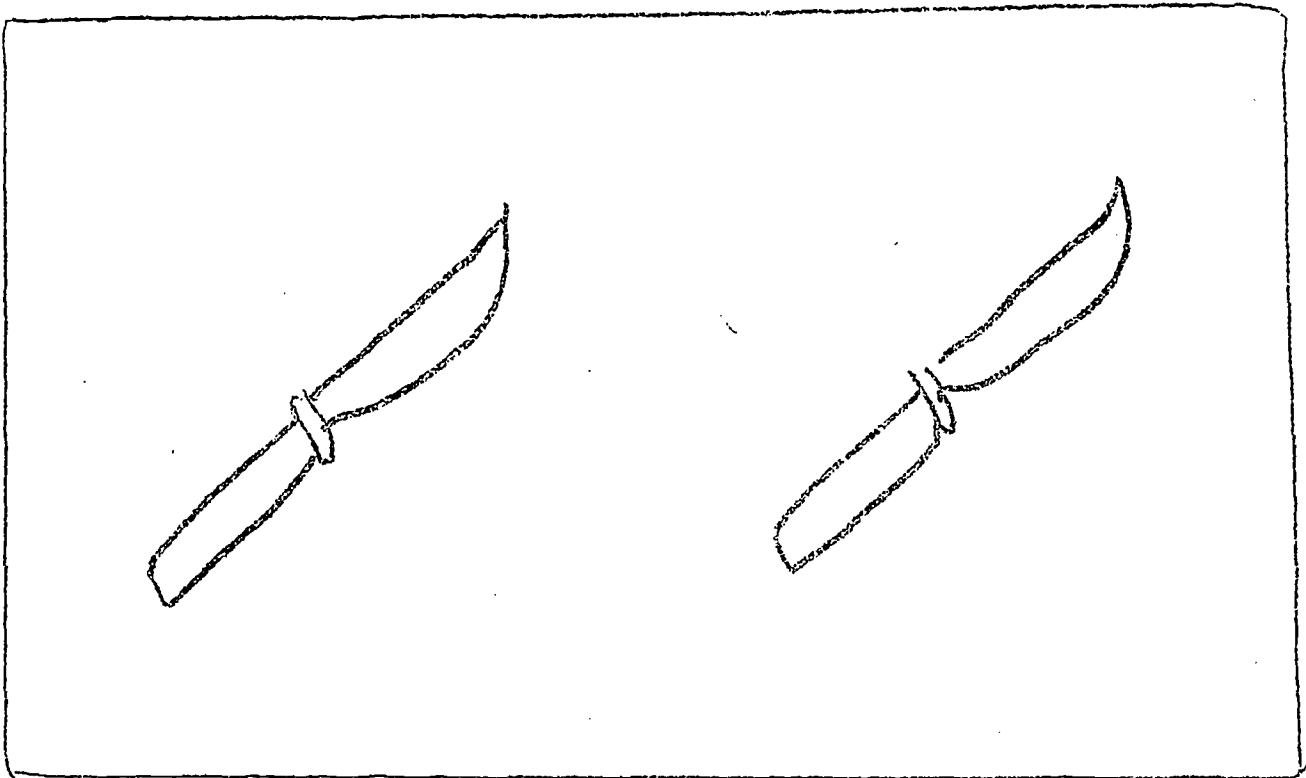
33
op



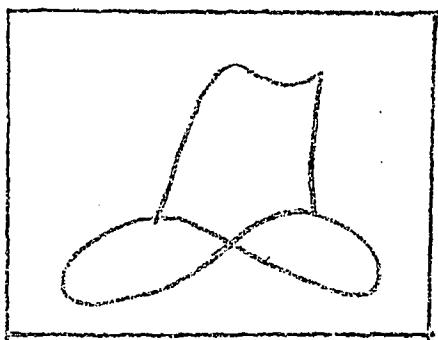
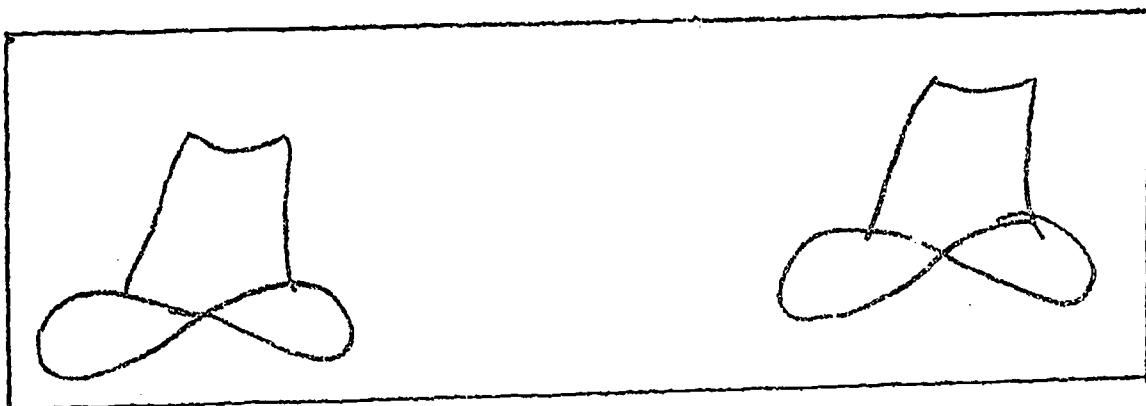




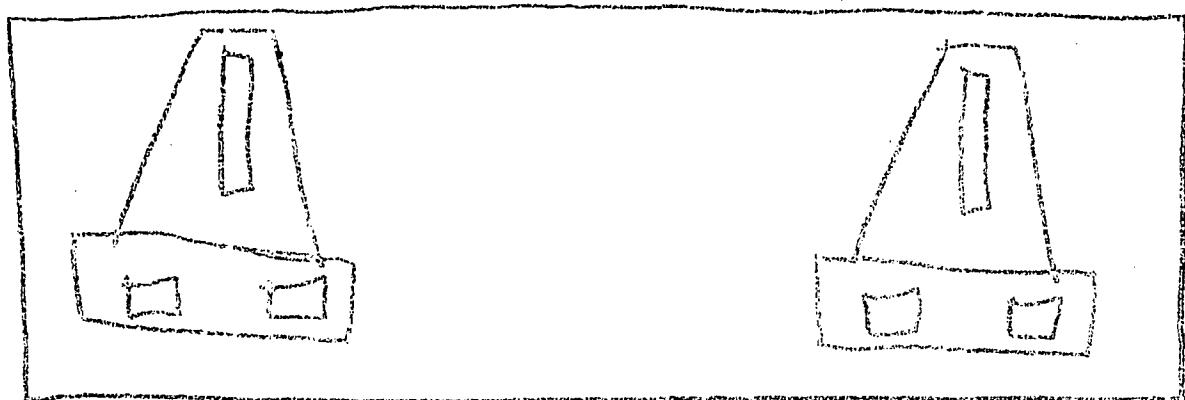
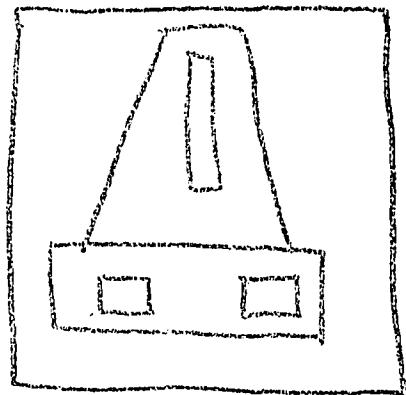
98

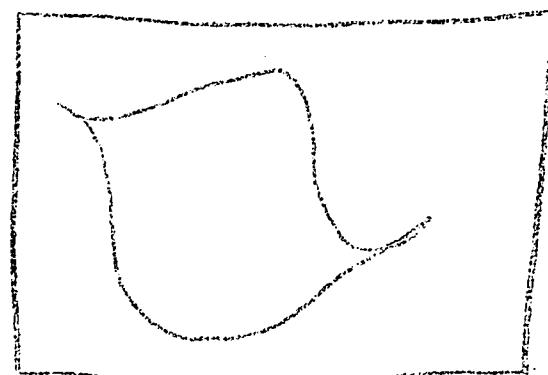
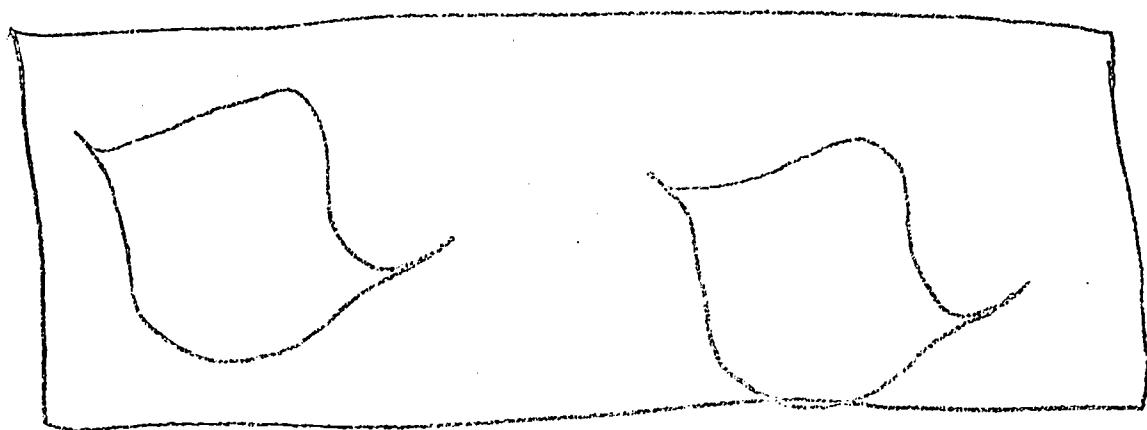


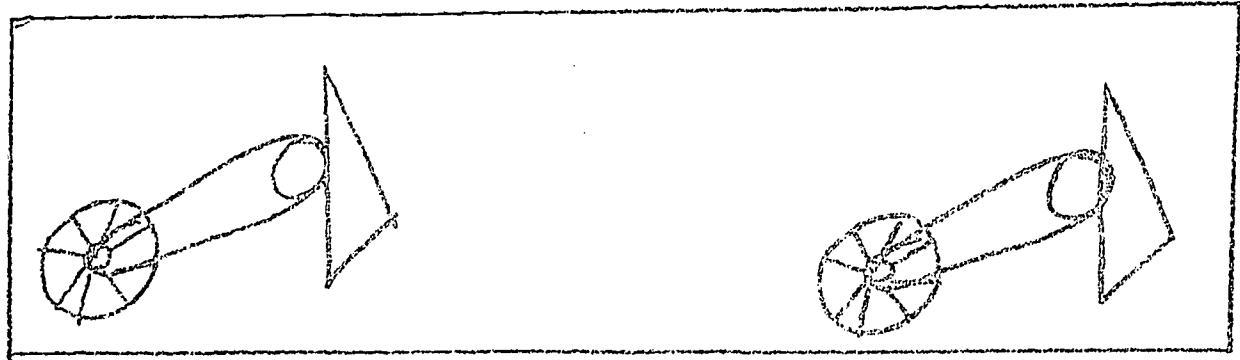
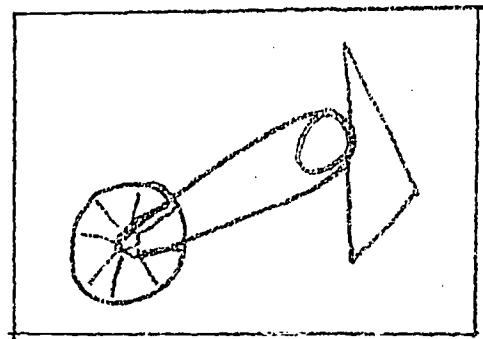
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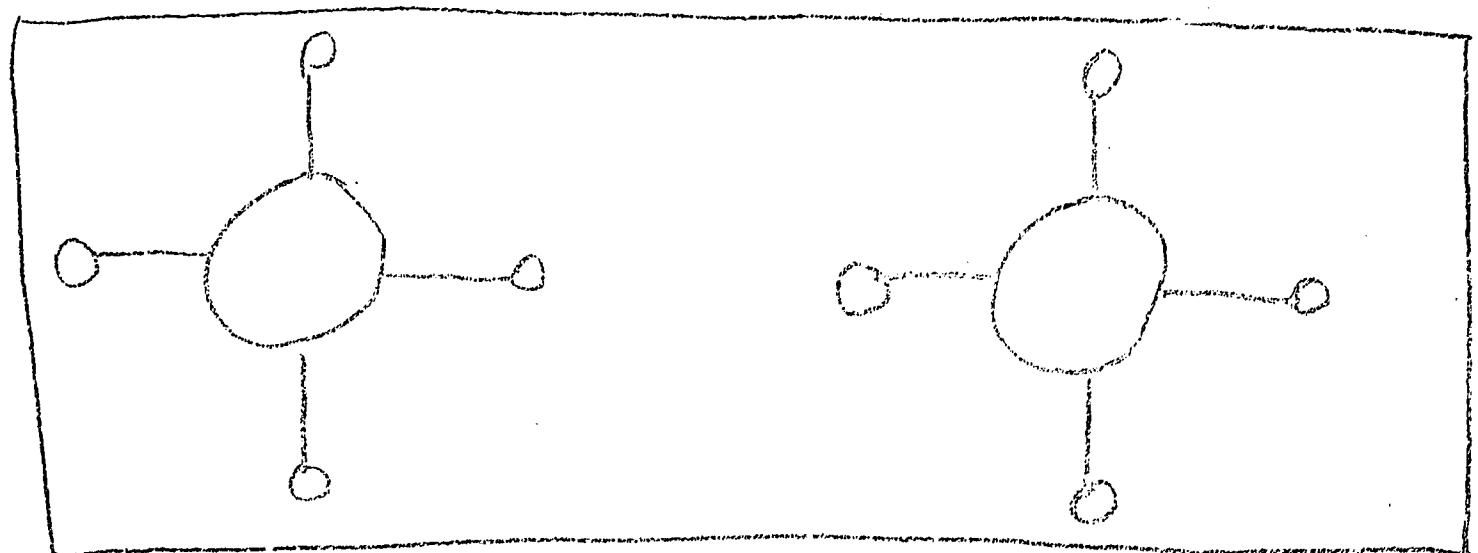
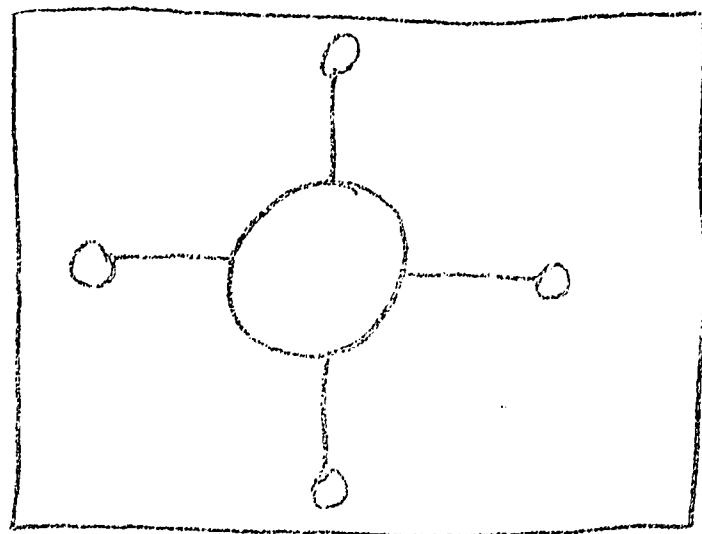
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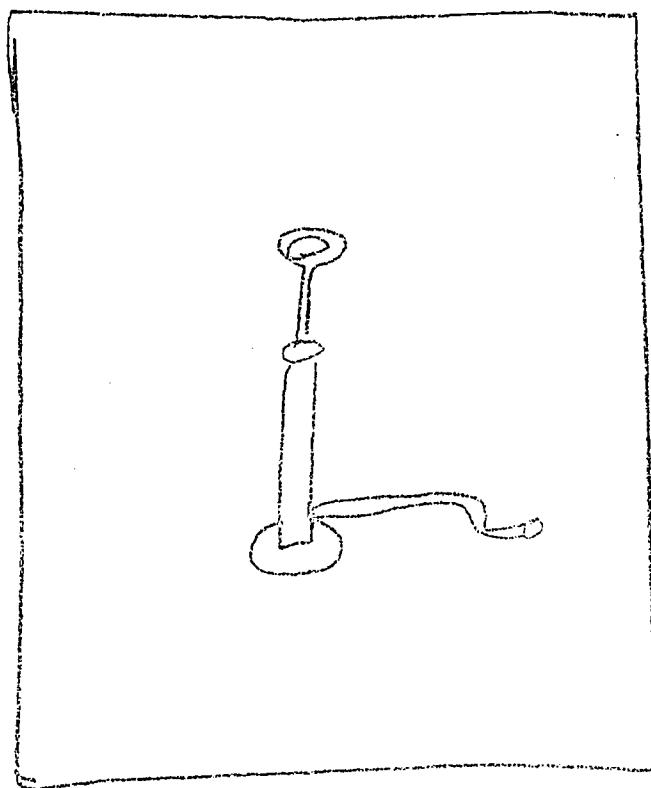
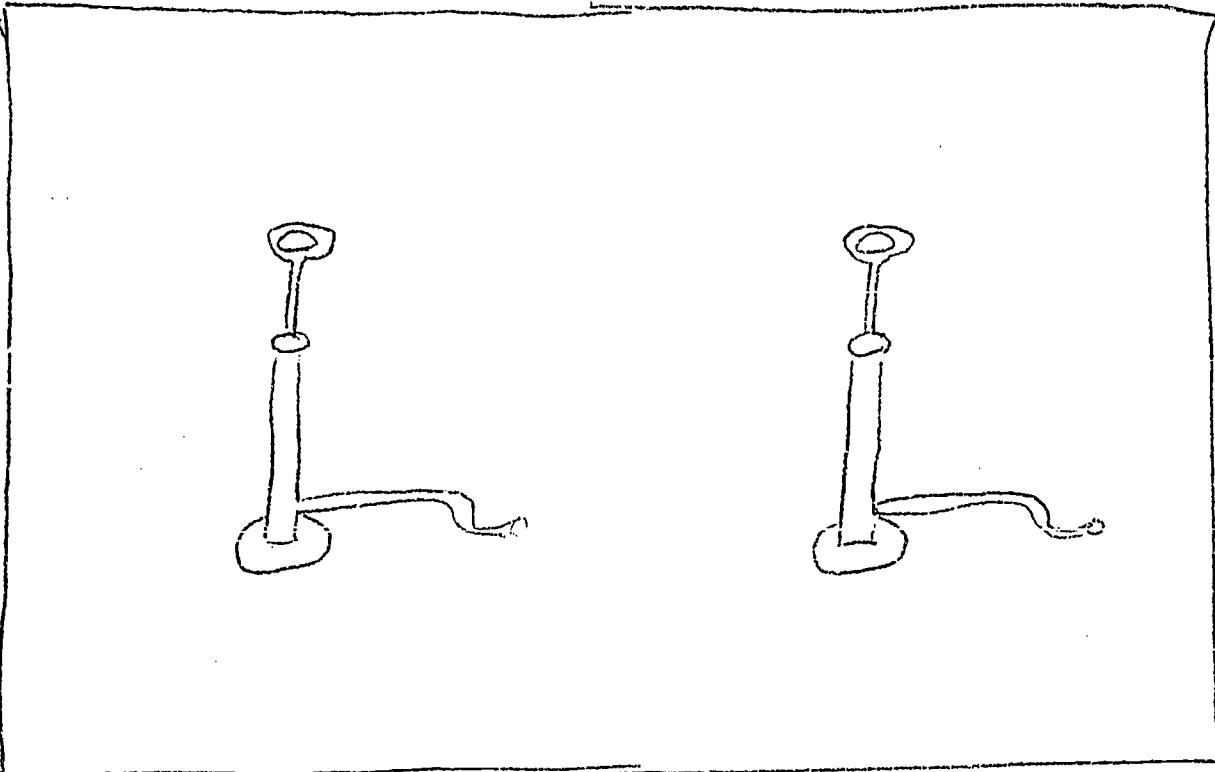






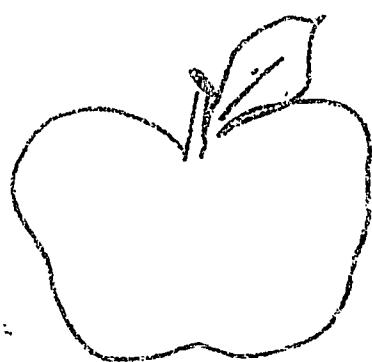
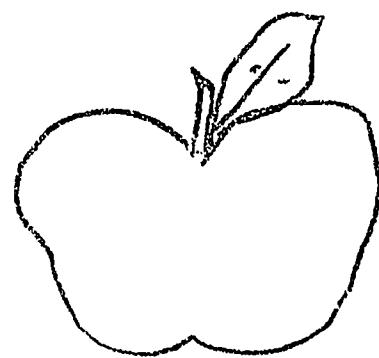
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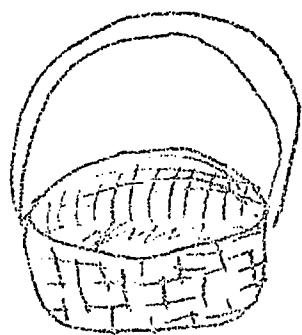
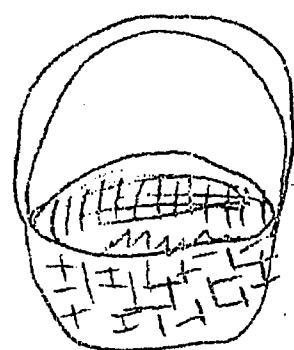
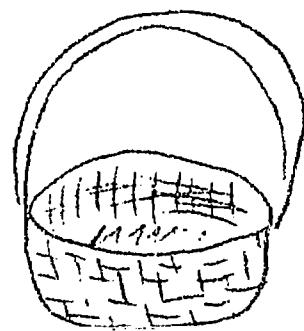


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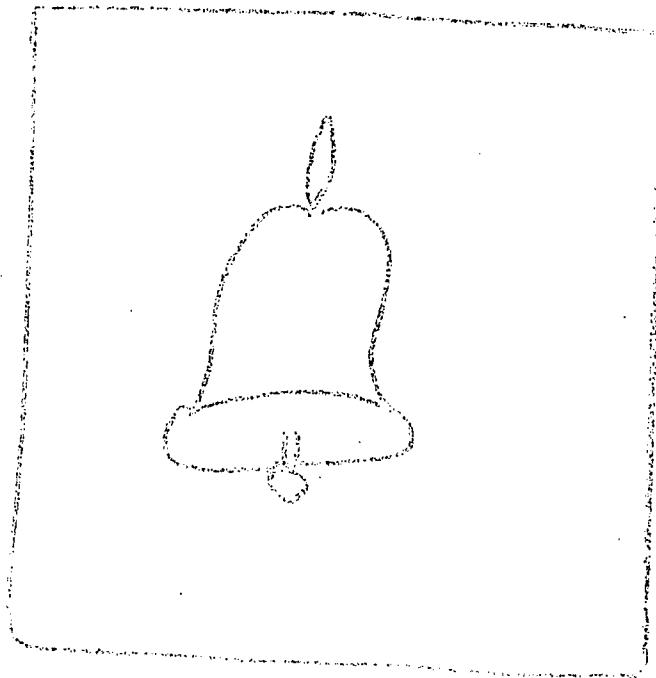
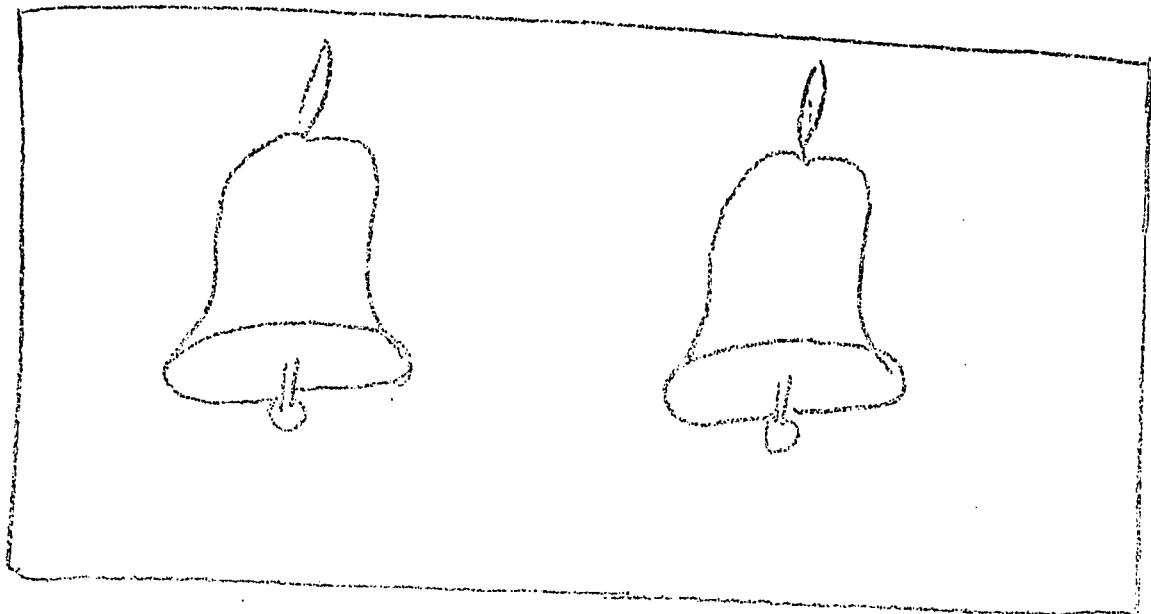
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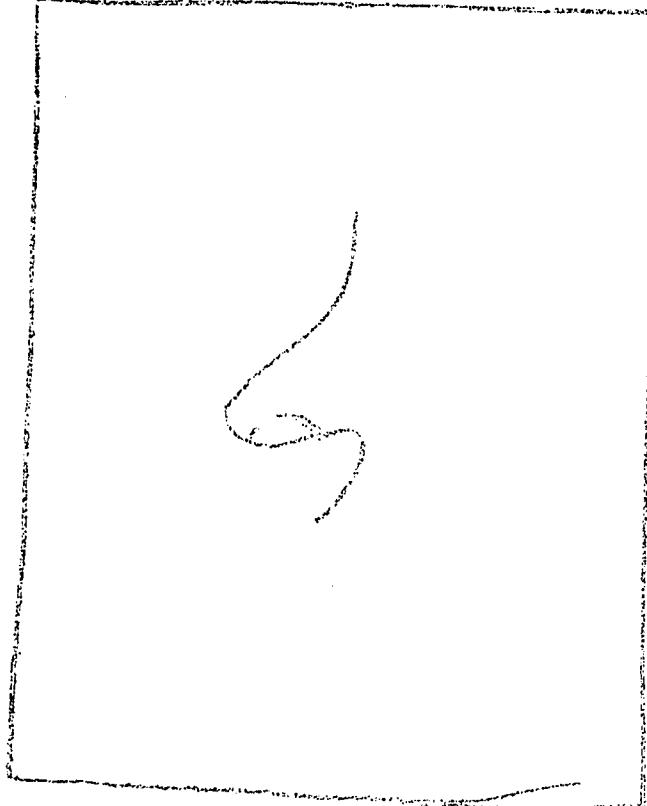


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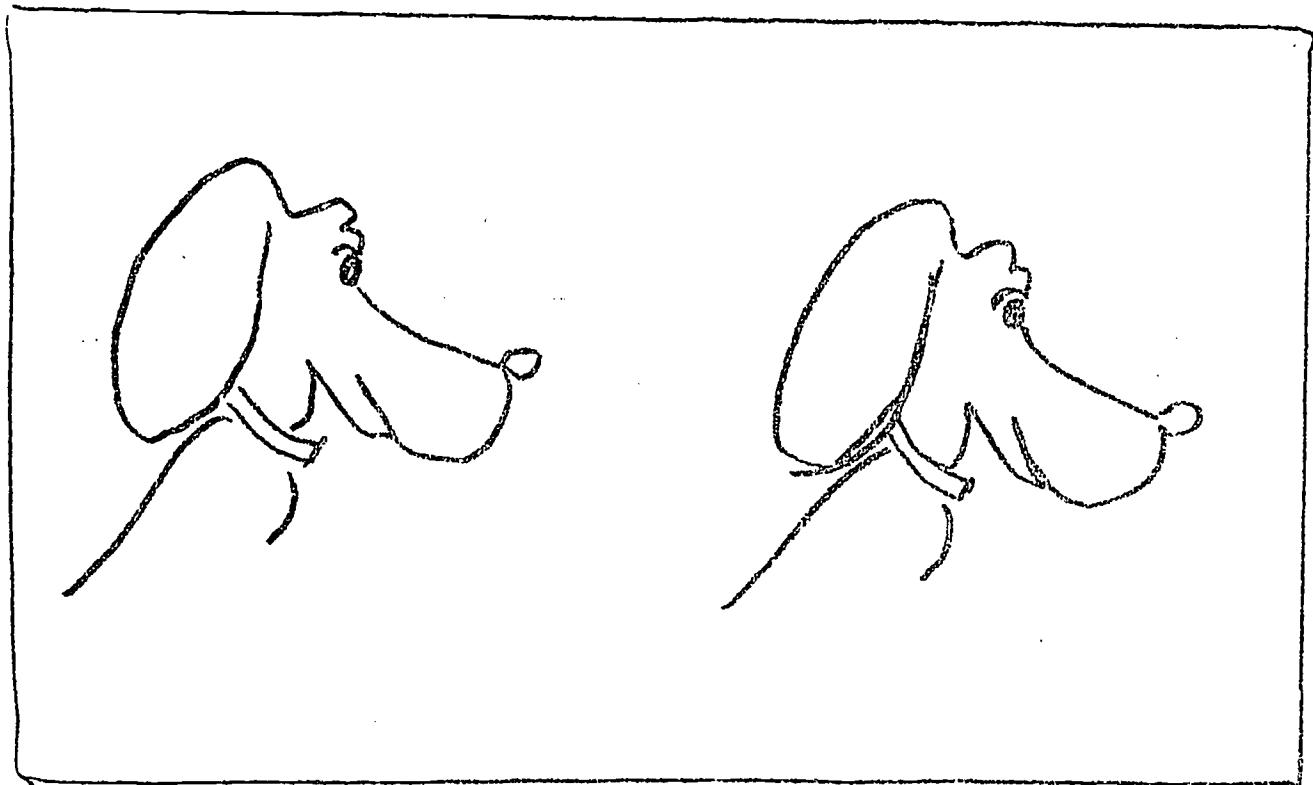
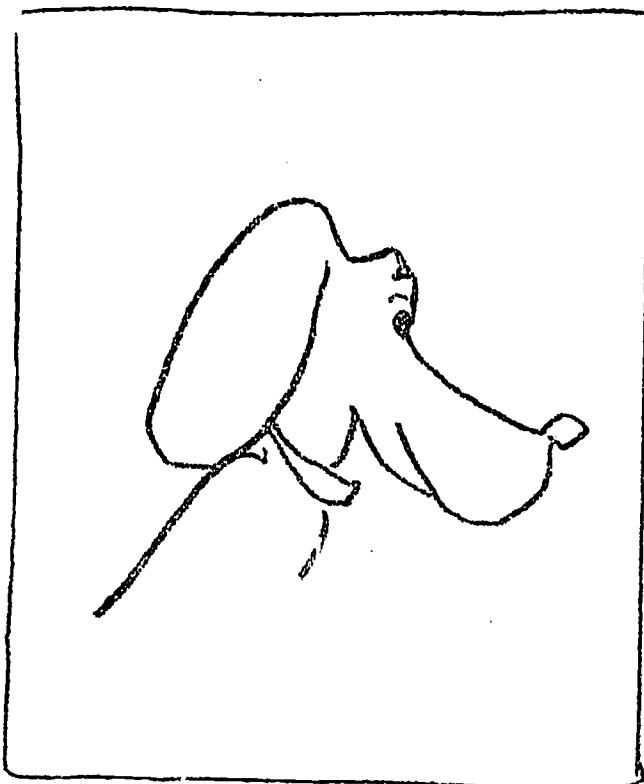


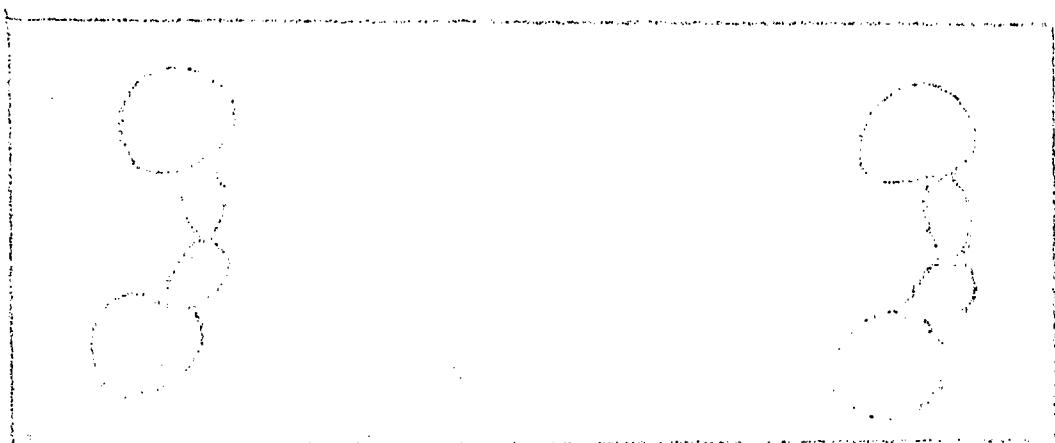
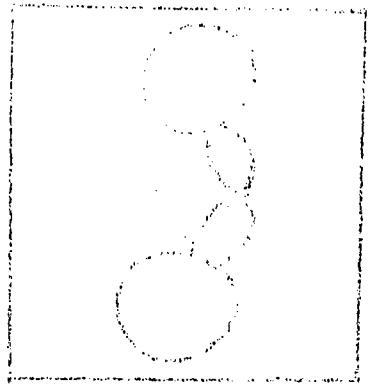
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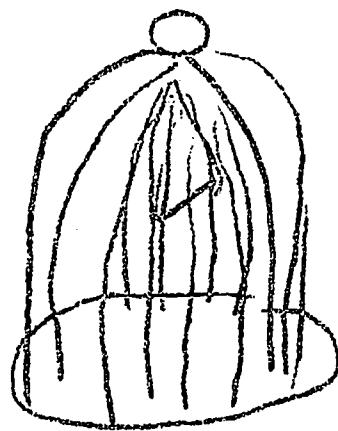
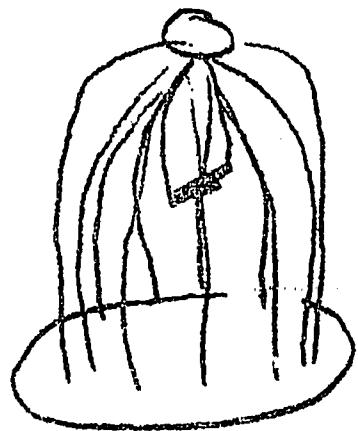
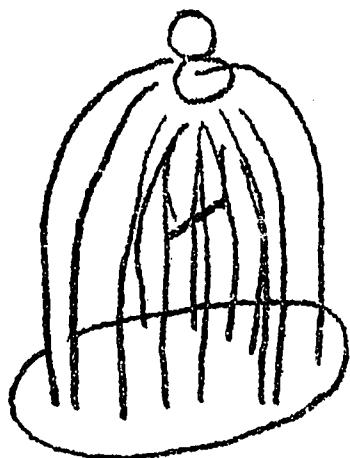
Test 1 - Recognition Task

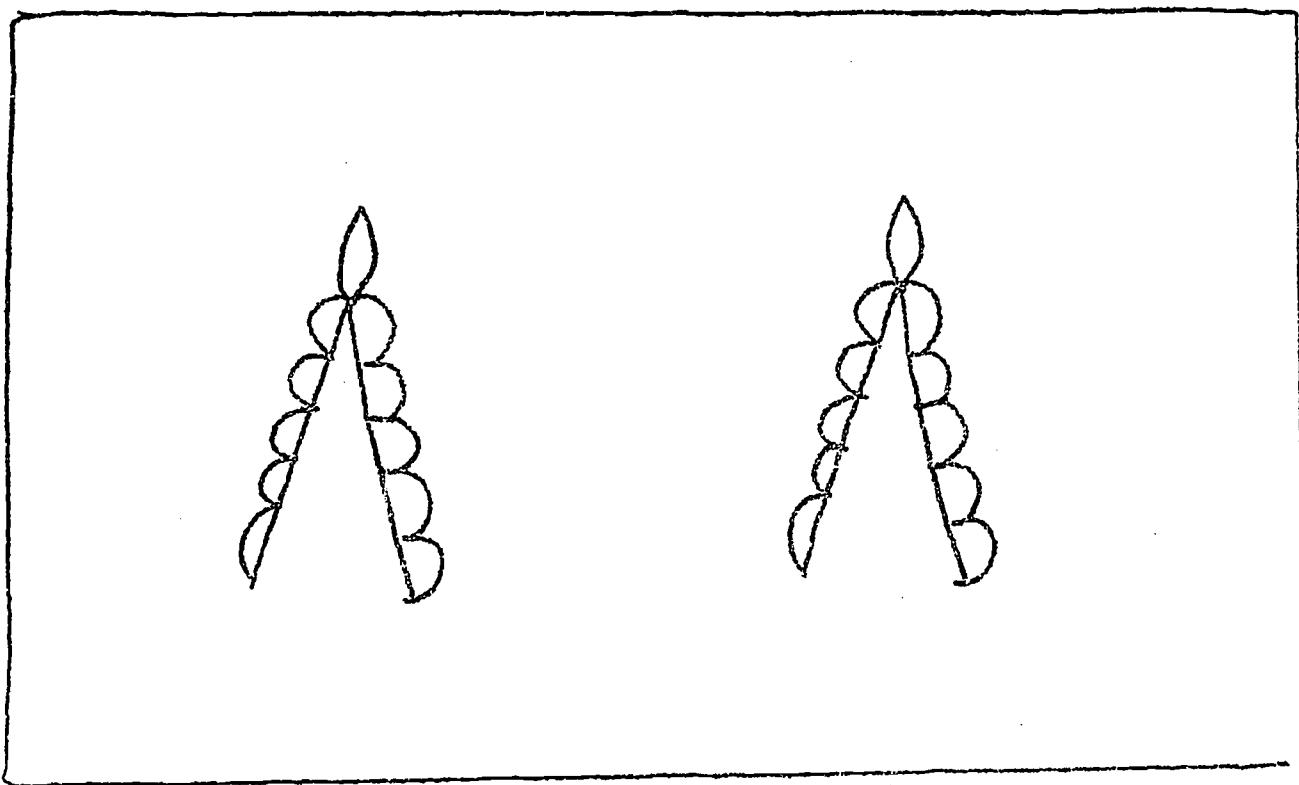
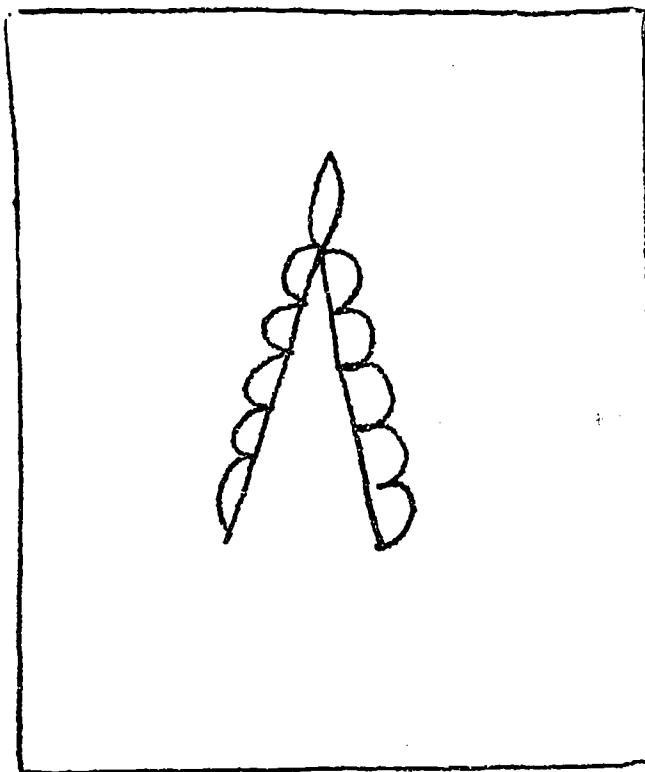


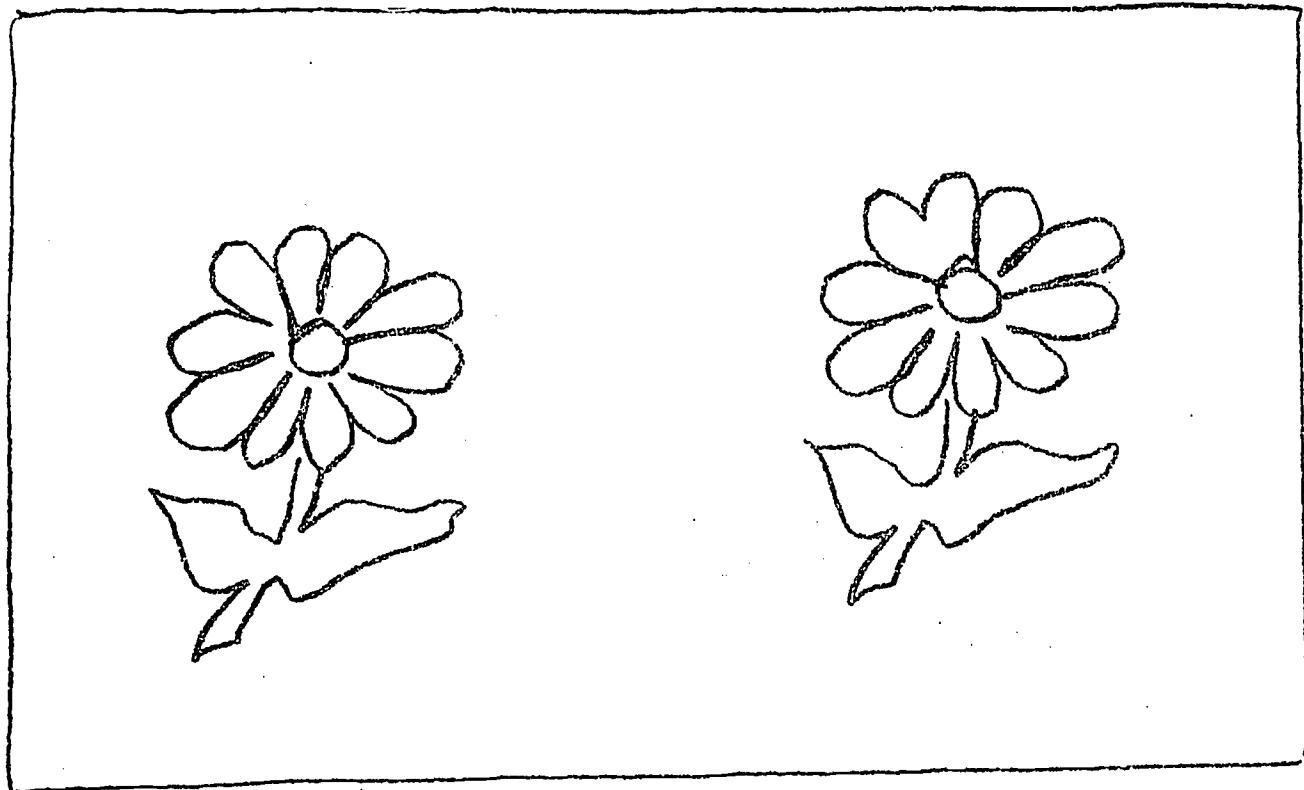
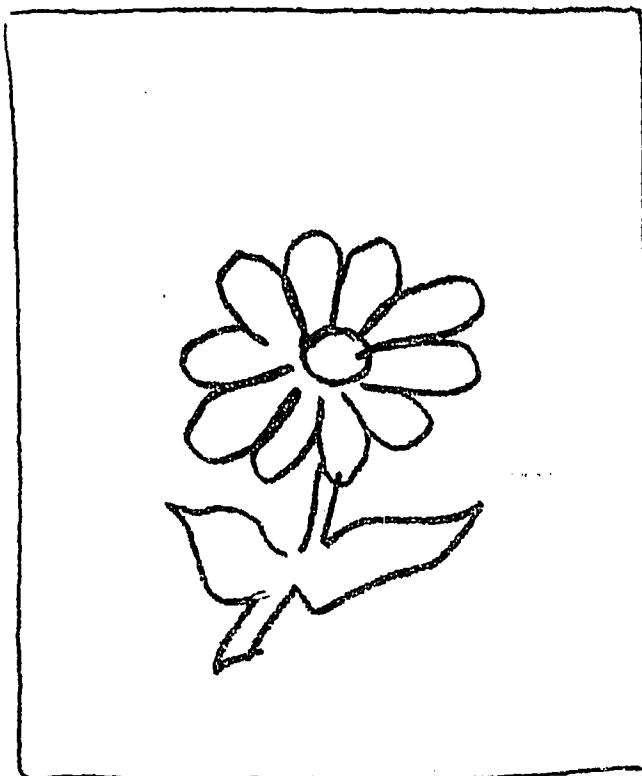
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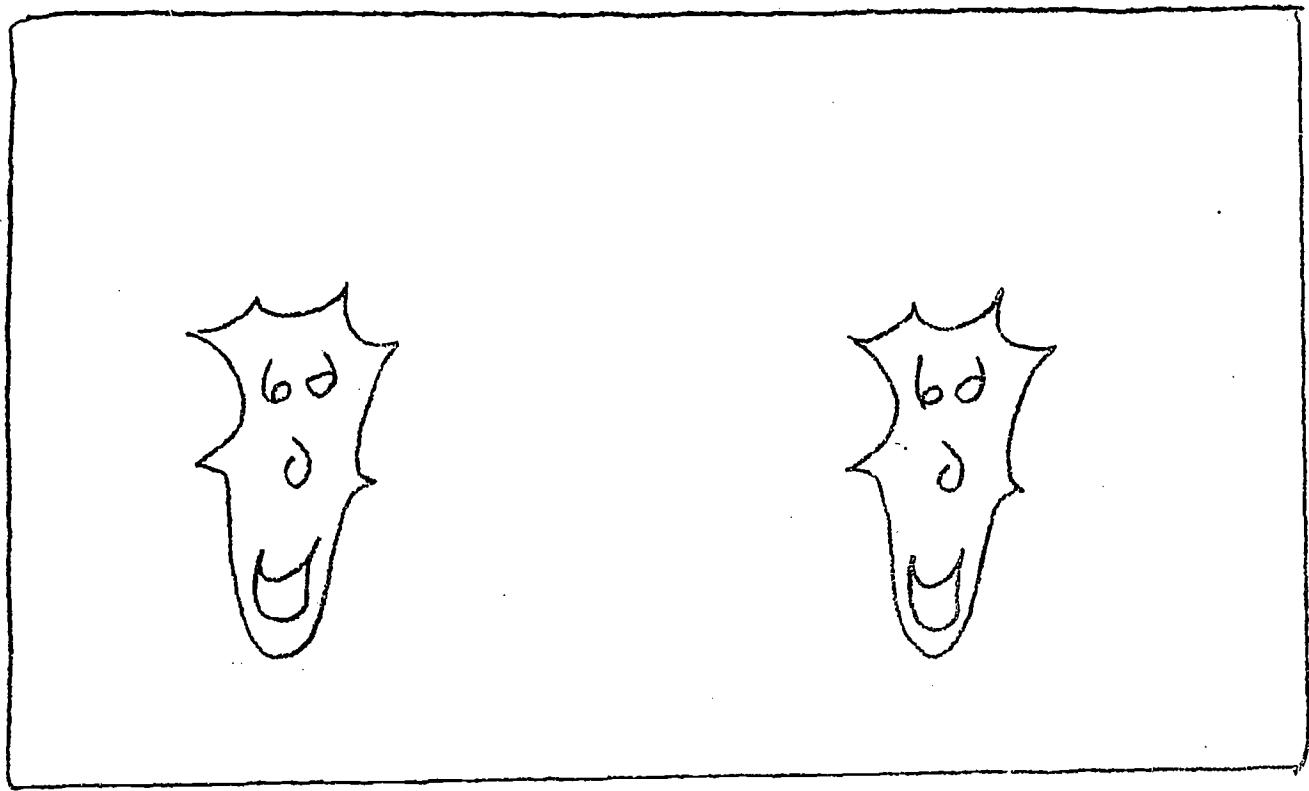
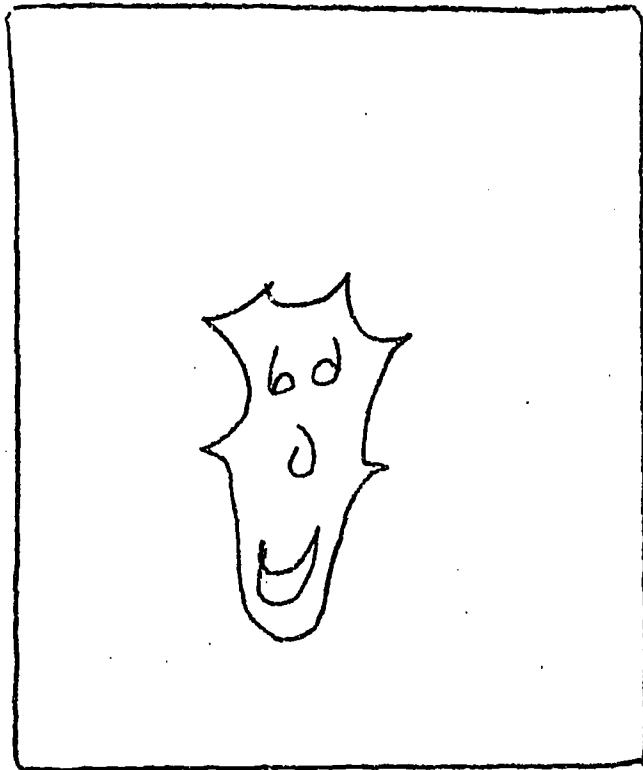


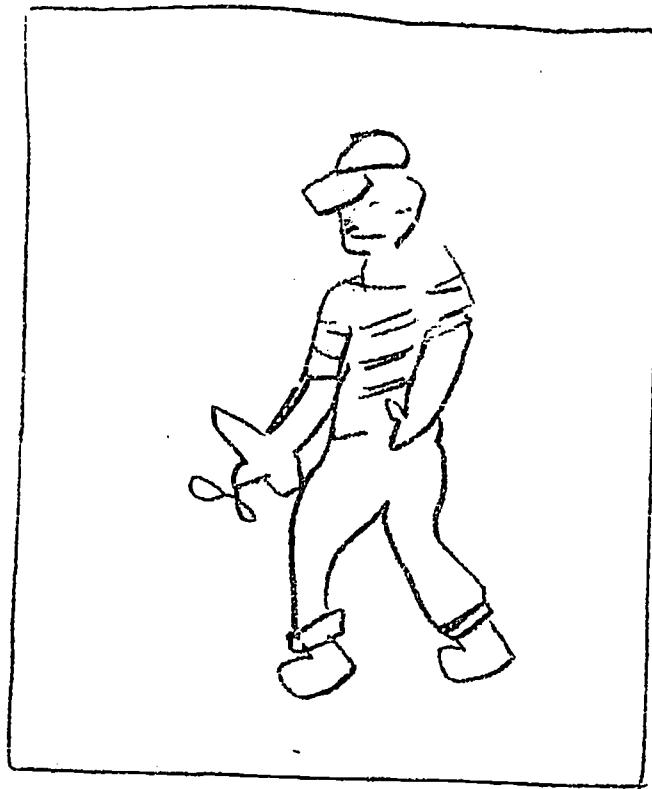
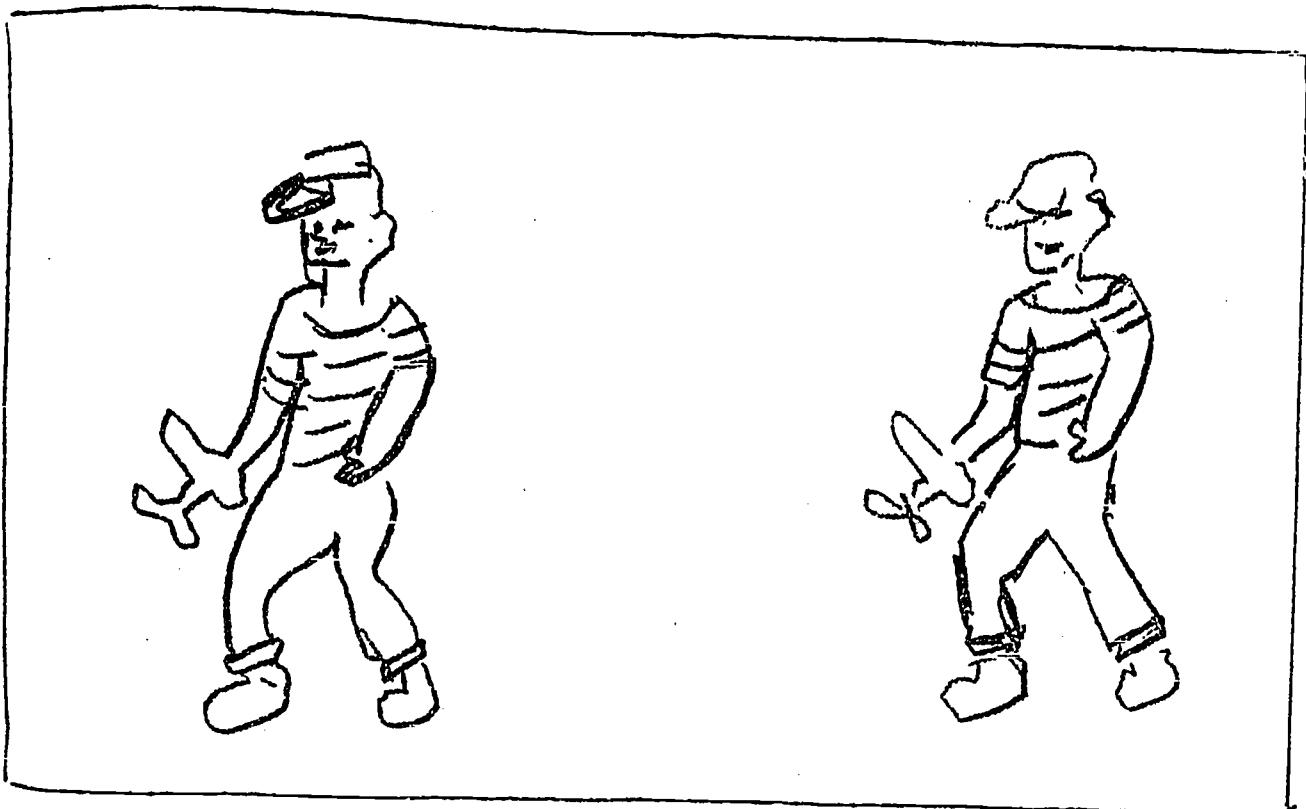




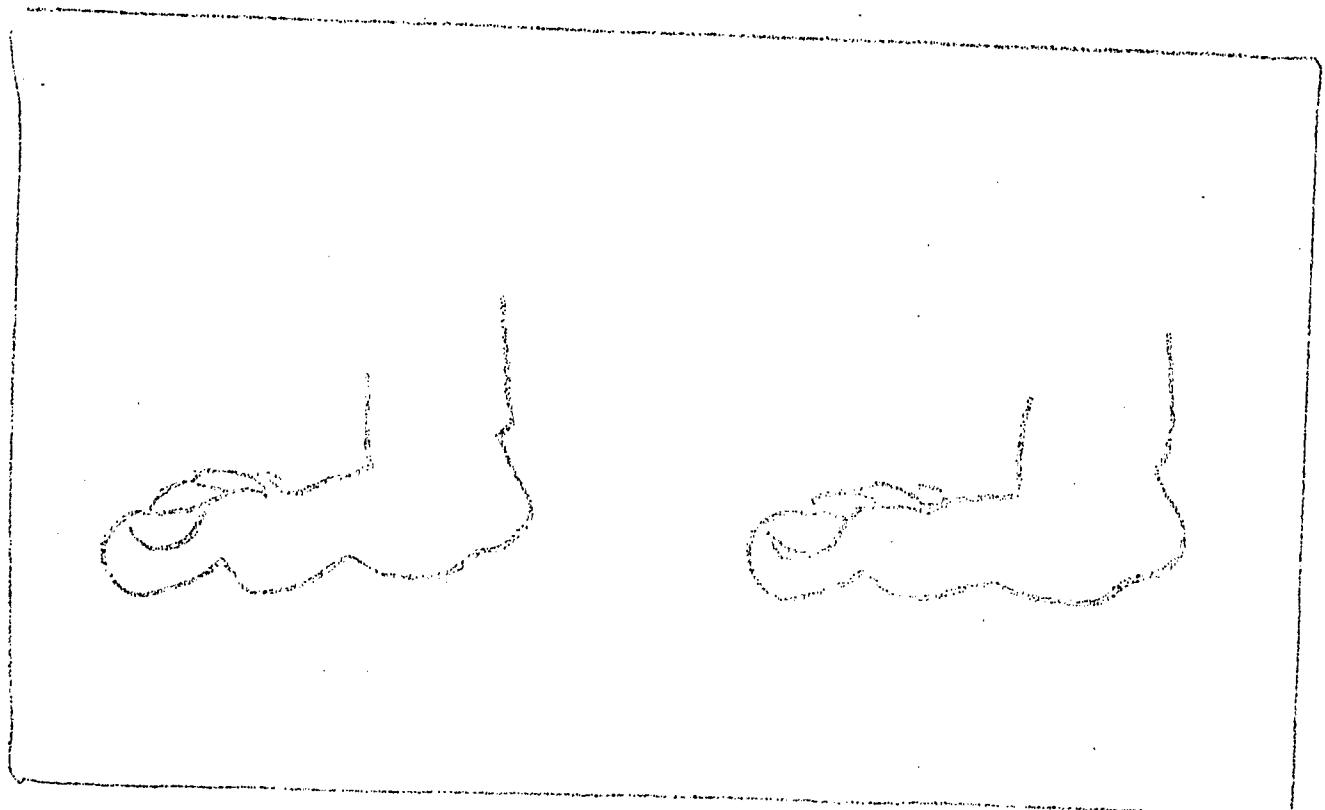
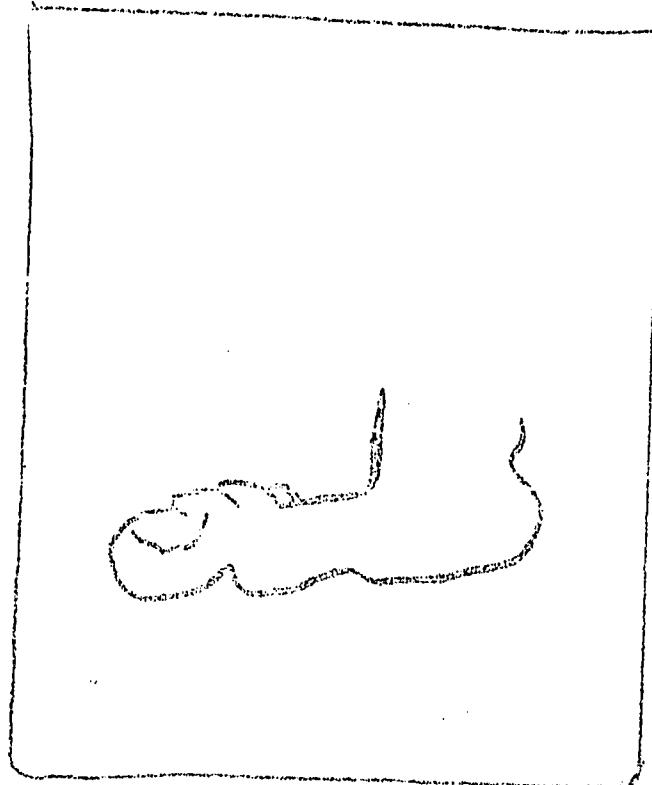


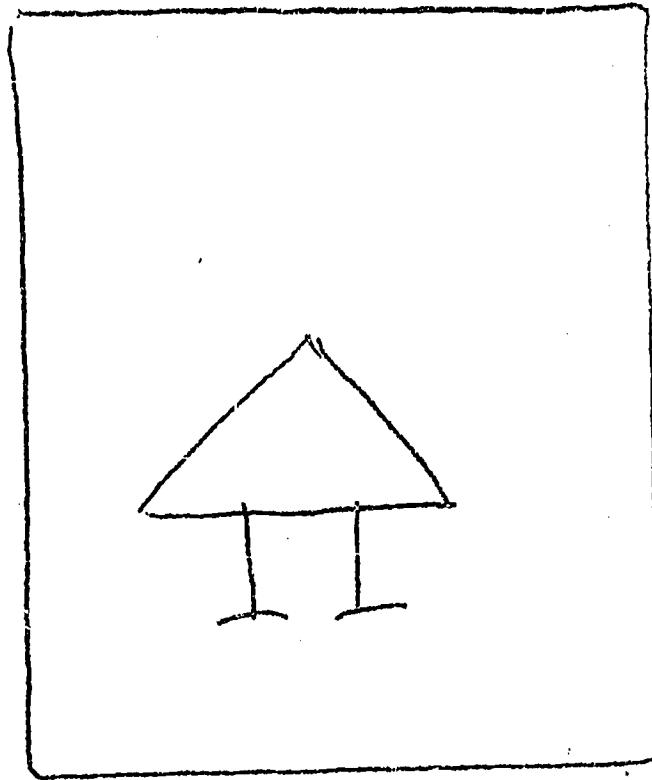
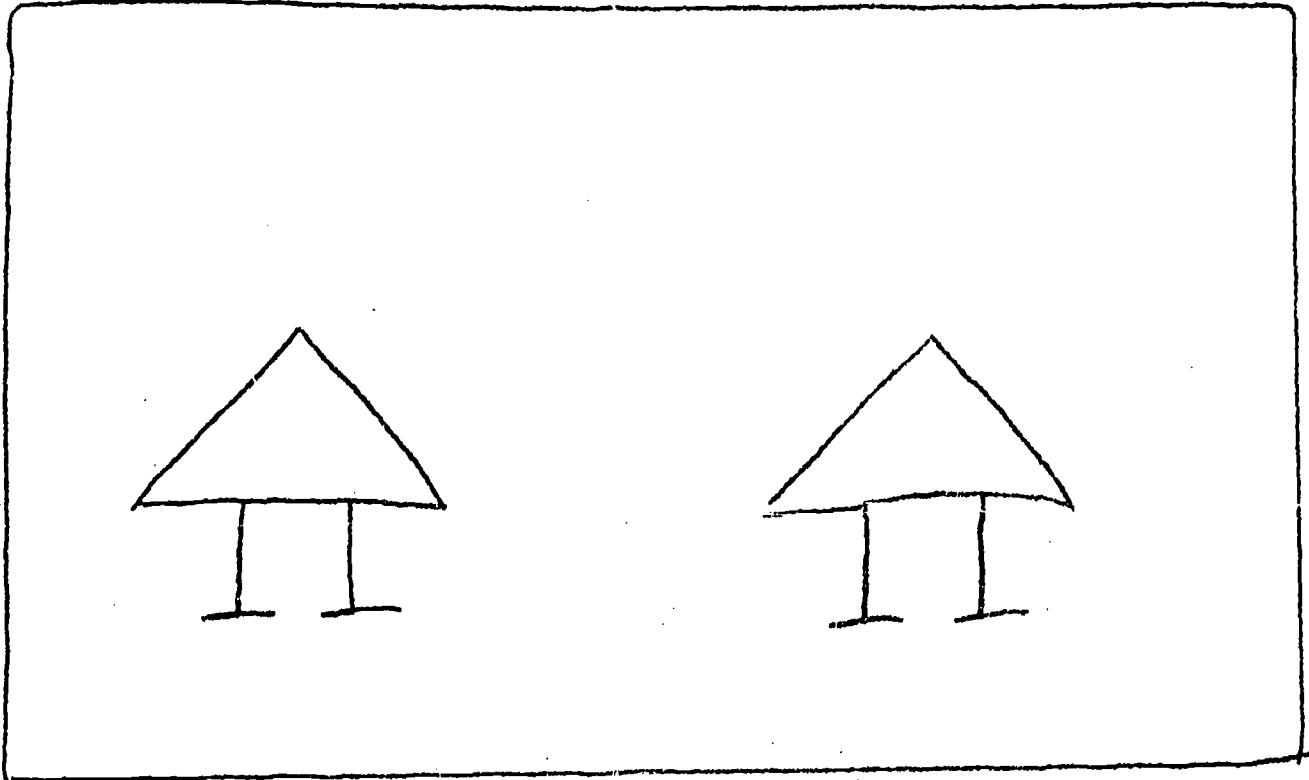




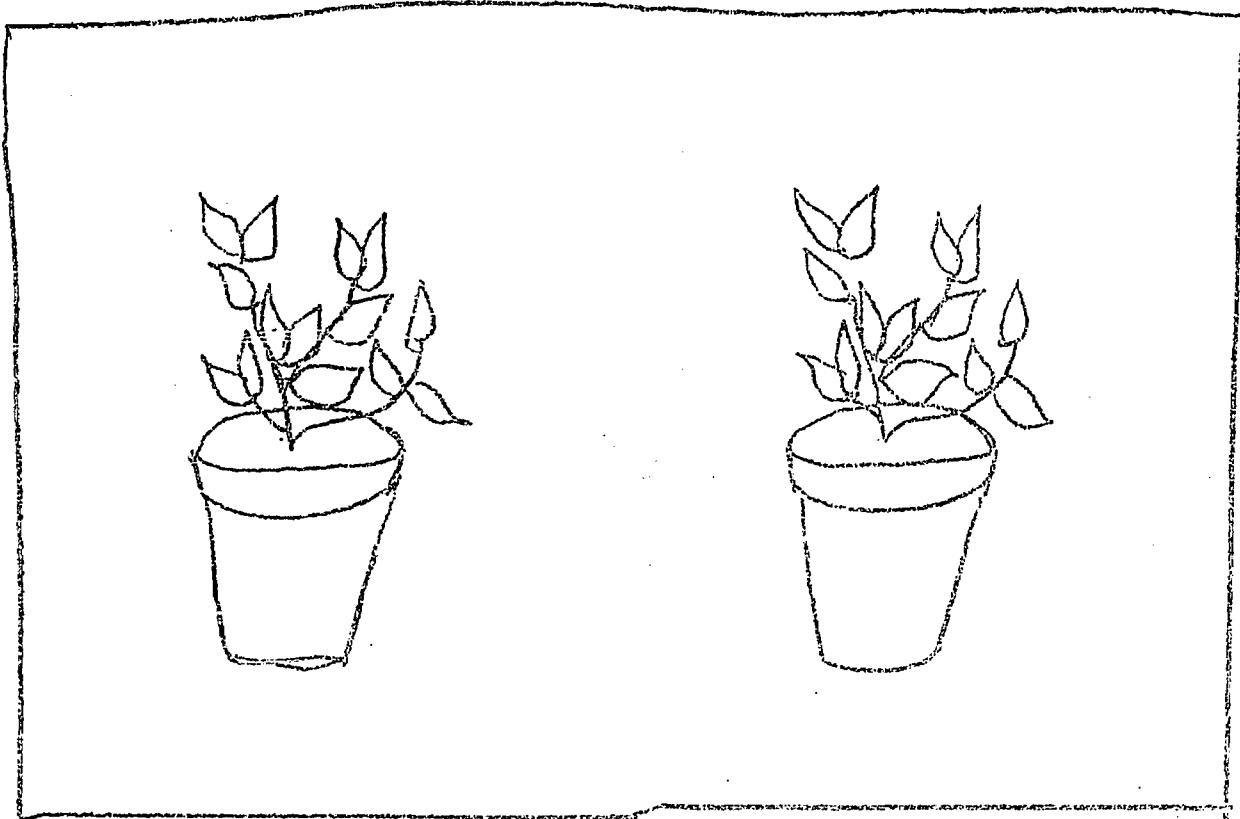
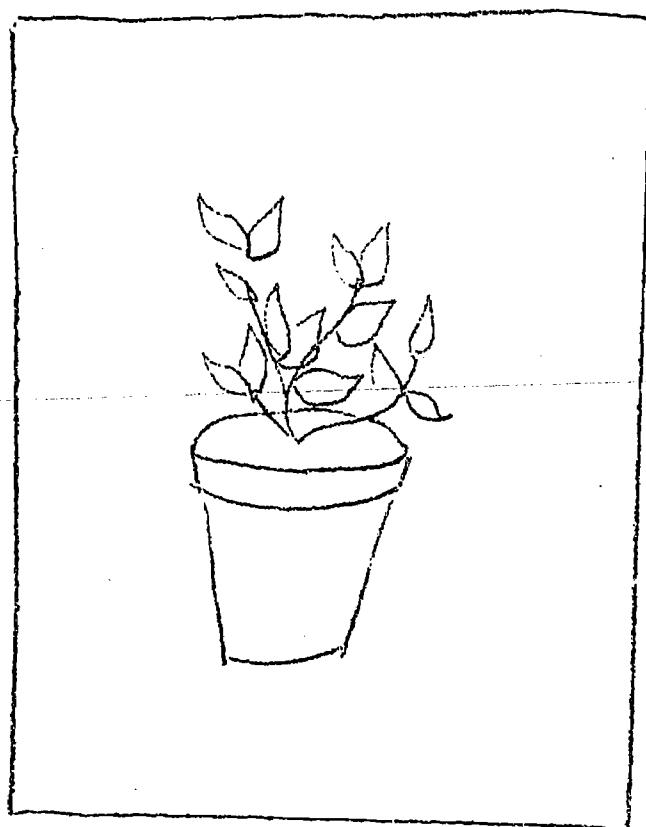


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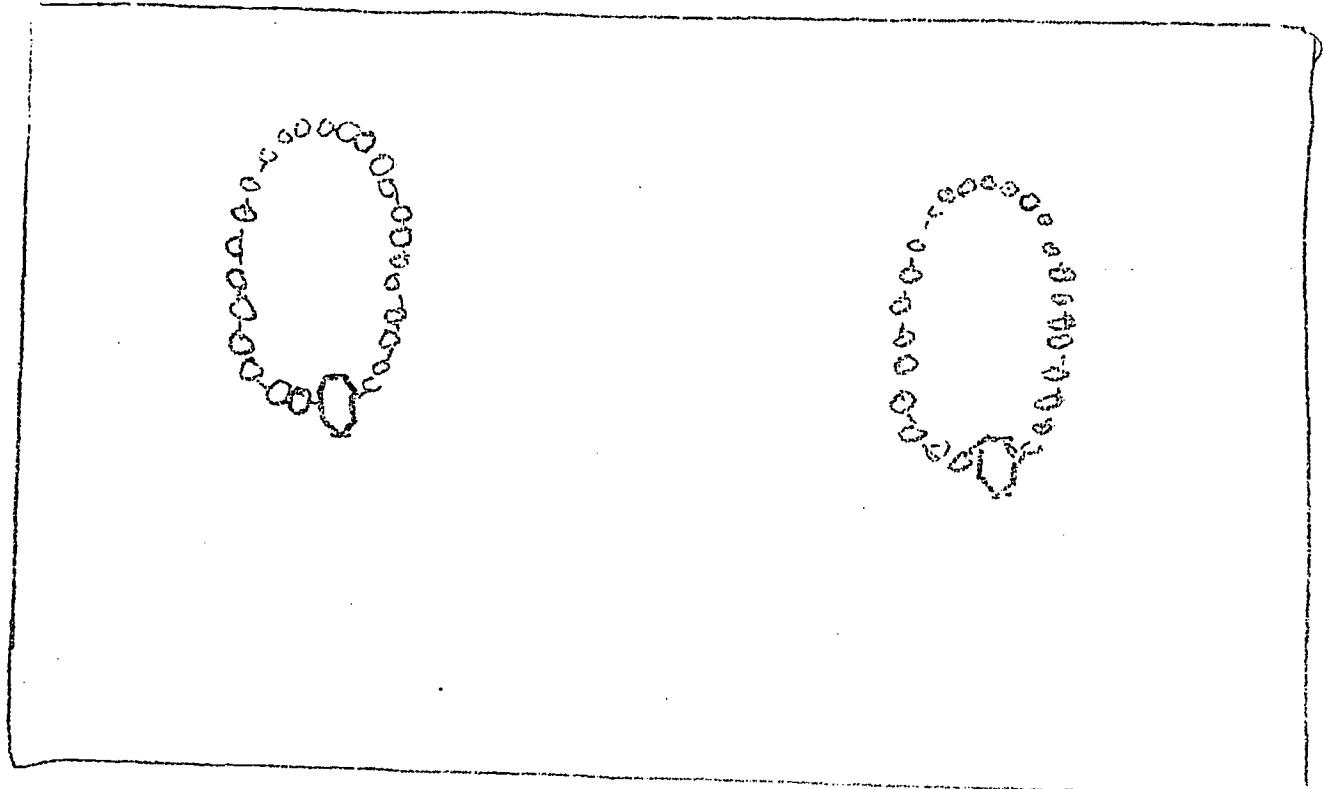
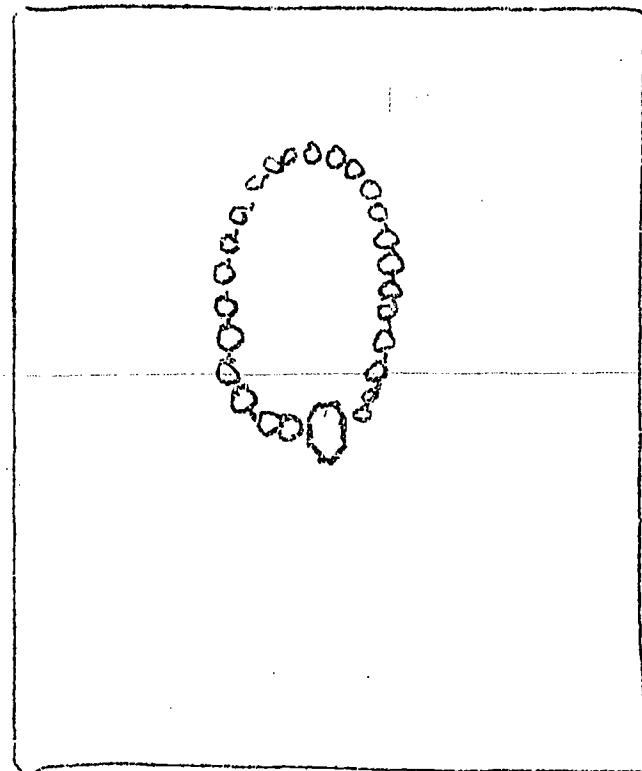


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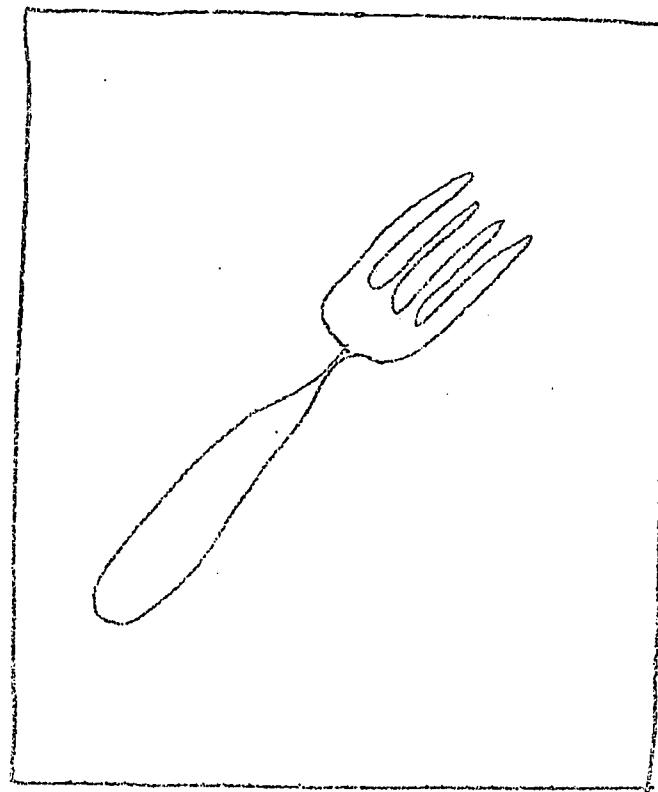
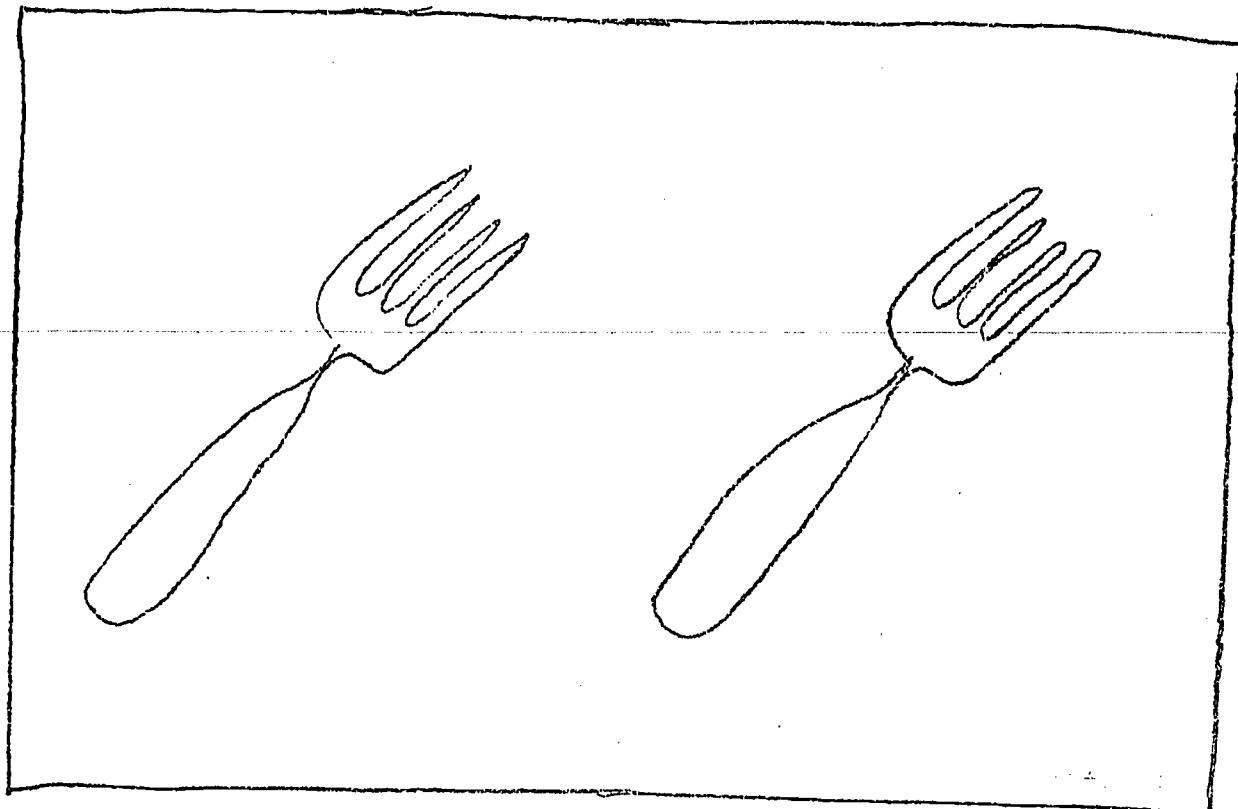


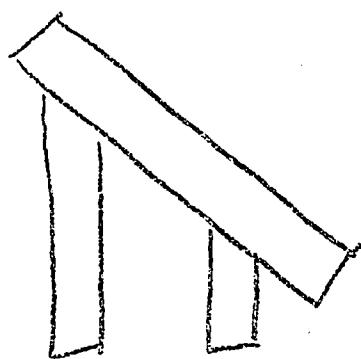
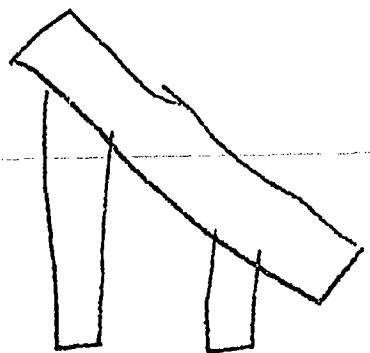
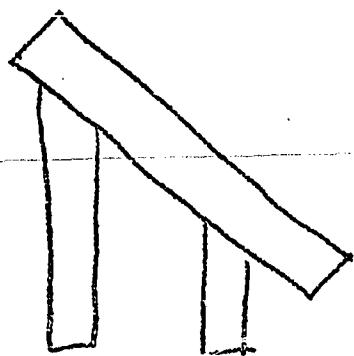
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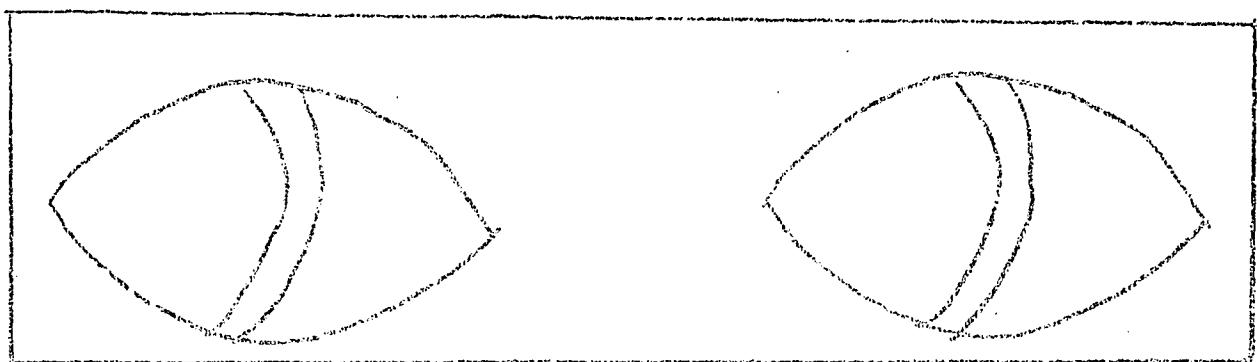
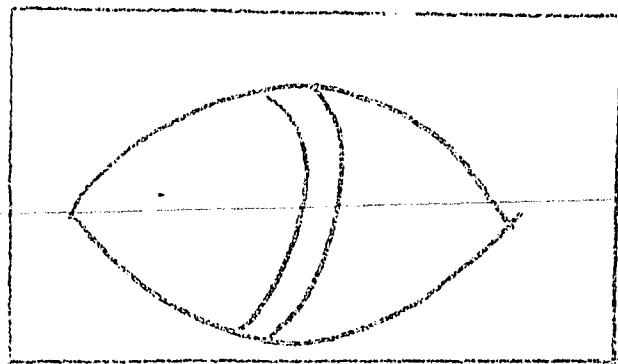


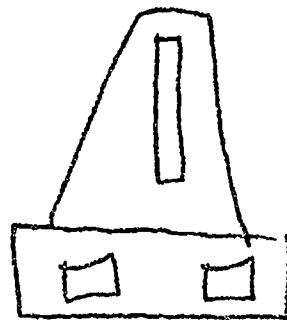
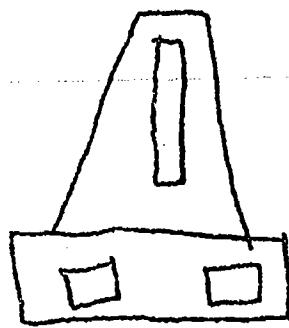
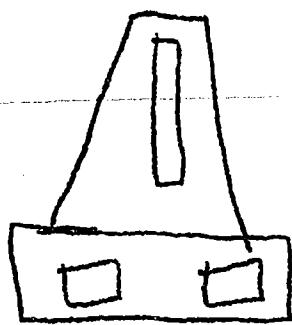
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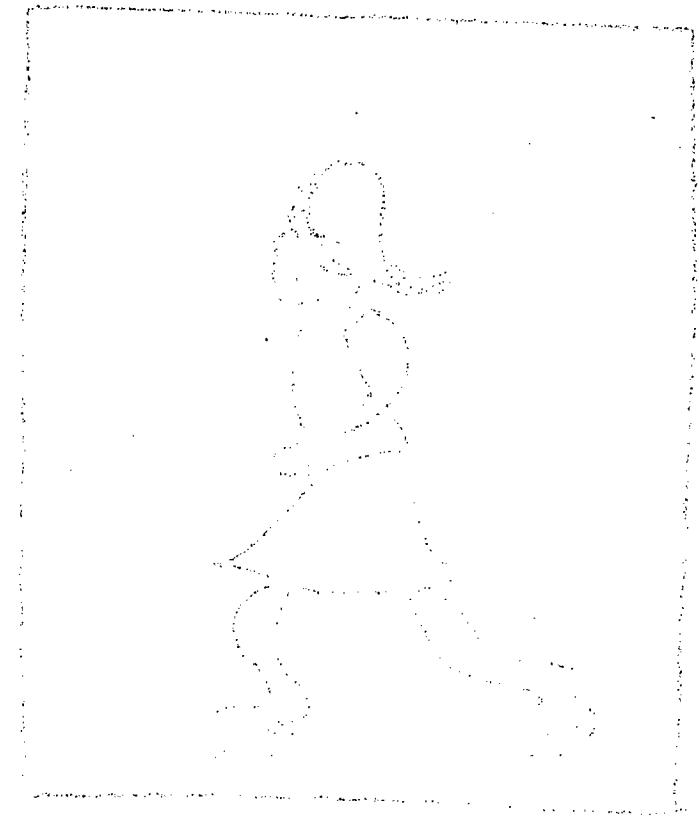
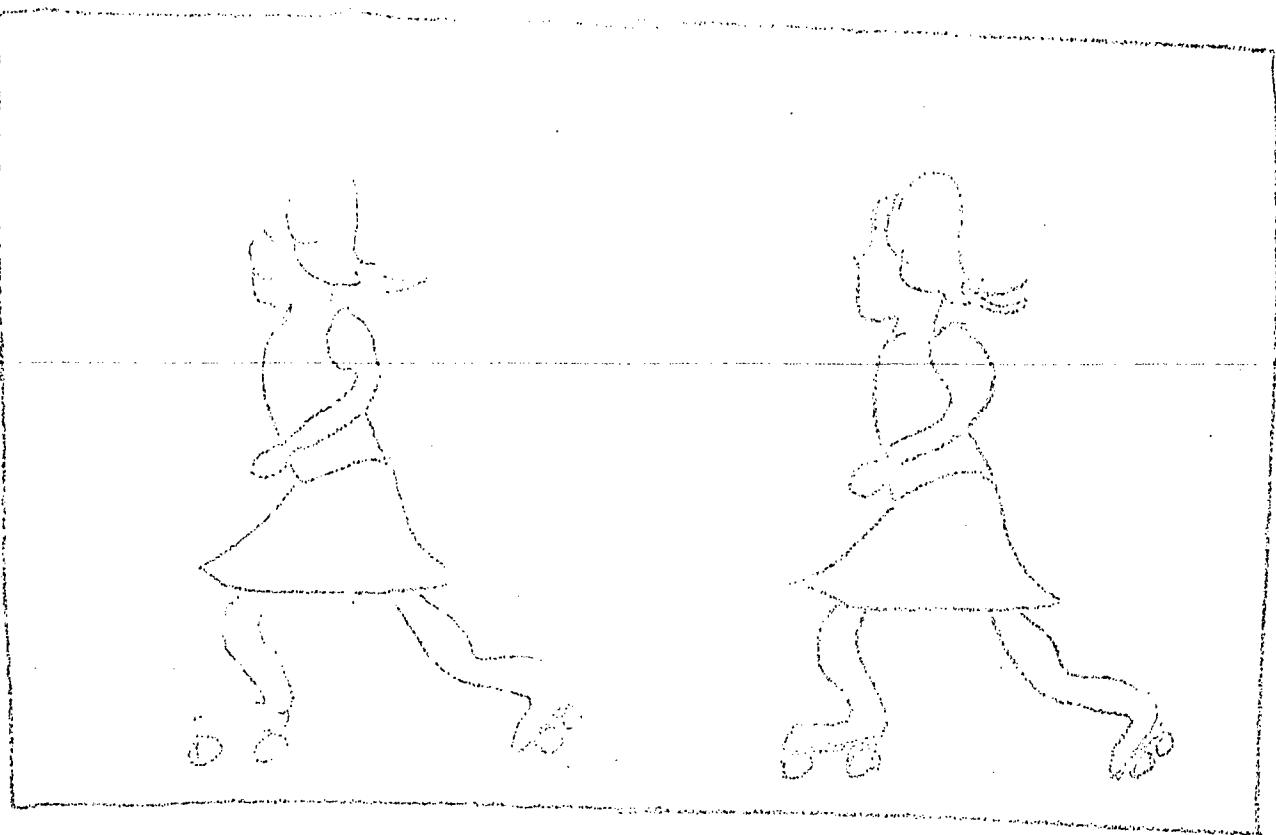


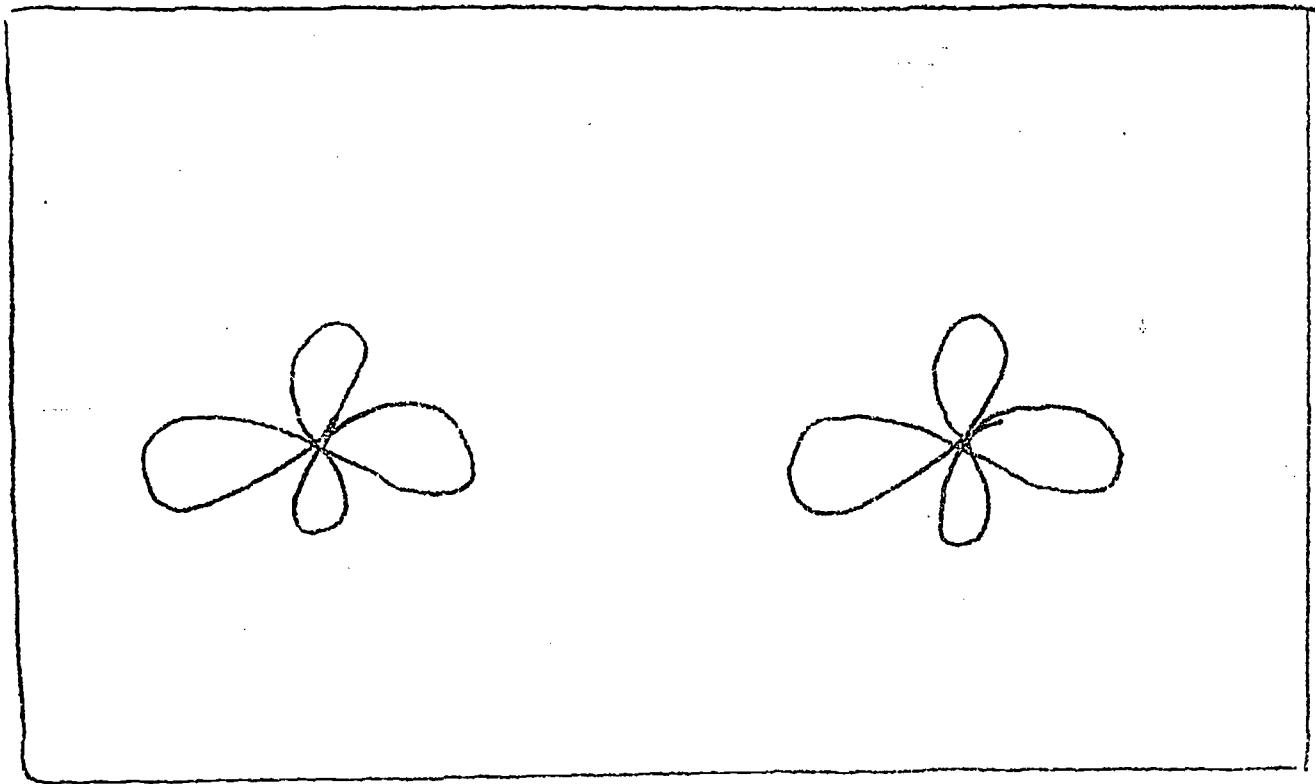
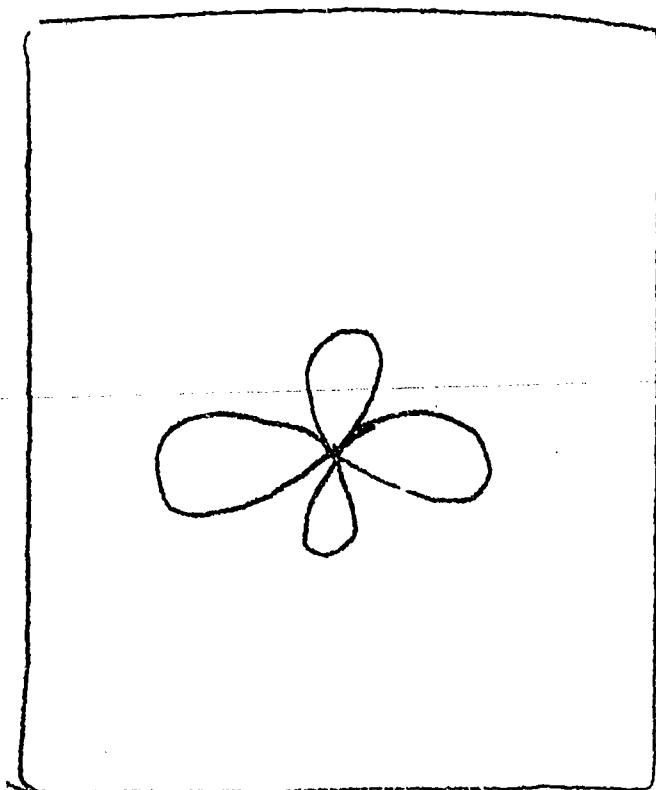


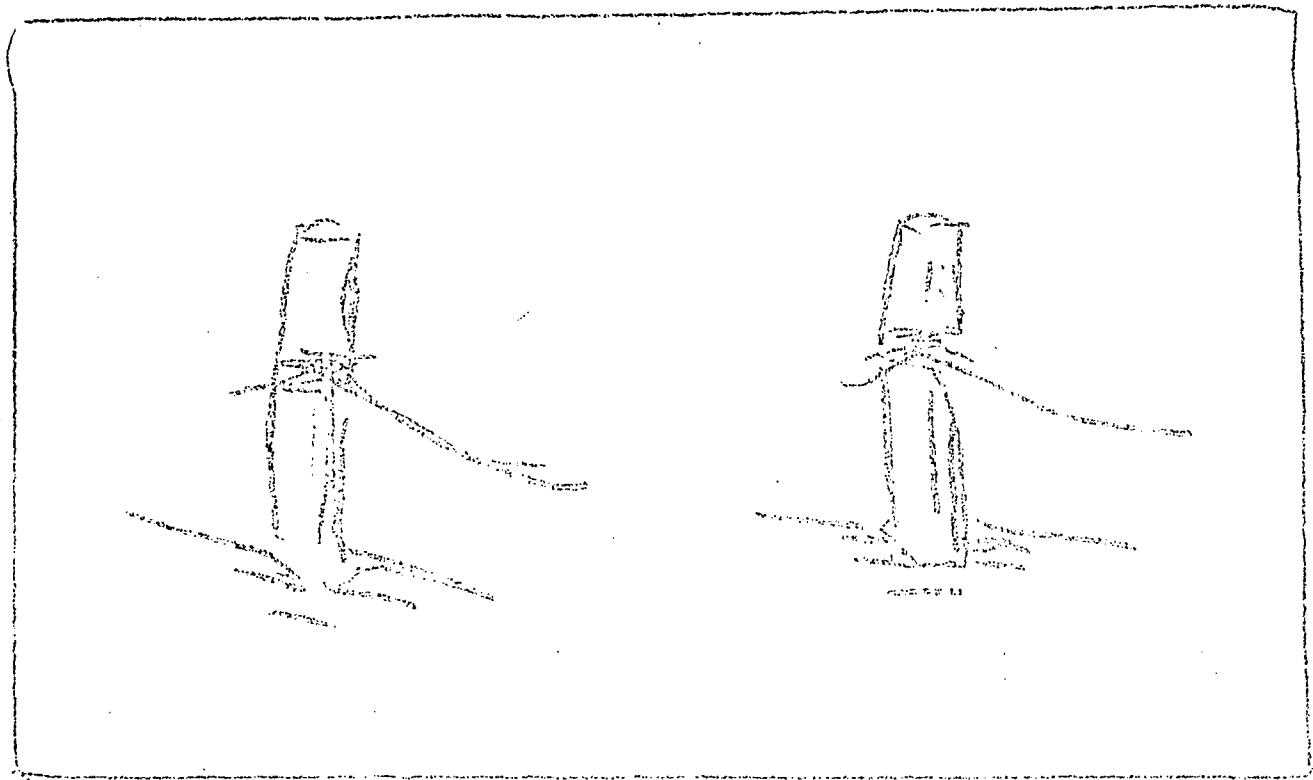
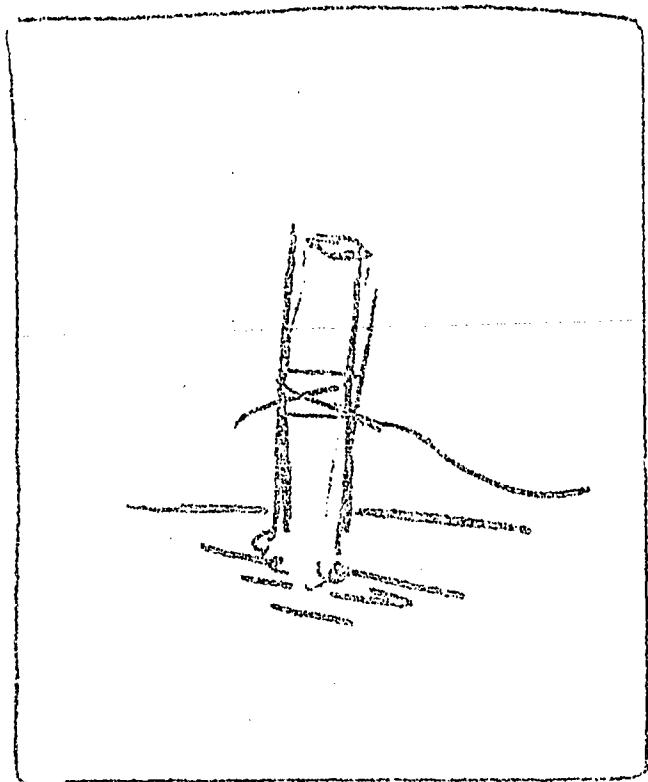
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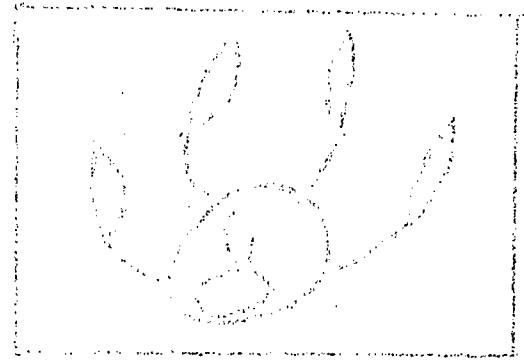
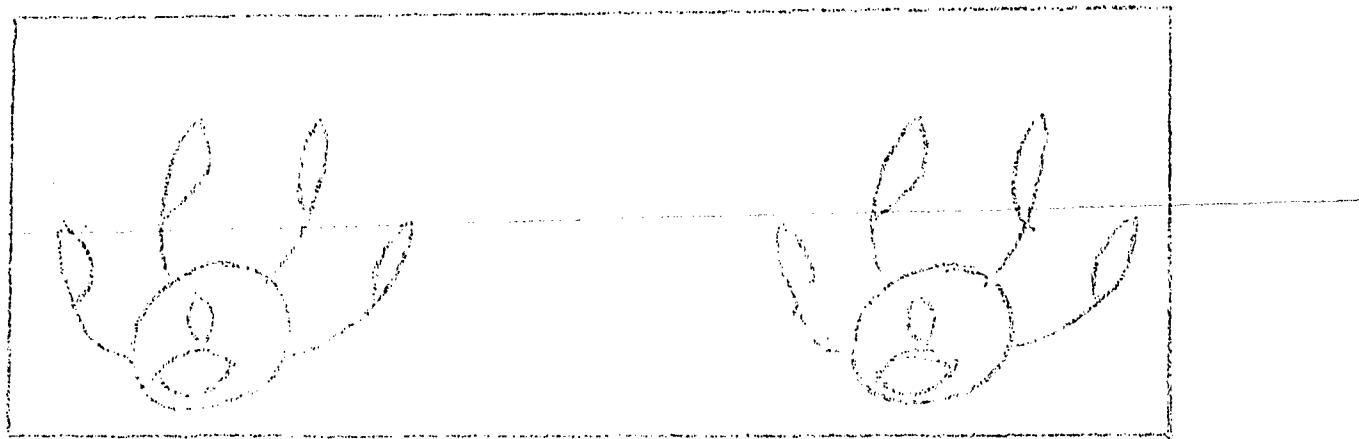


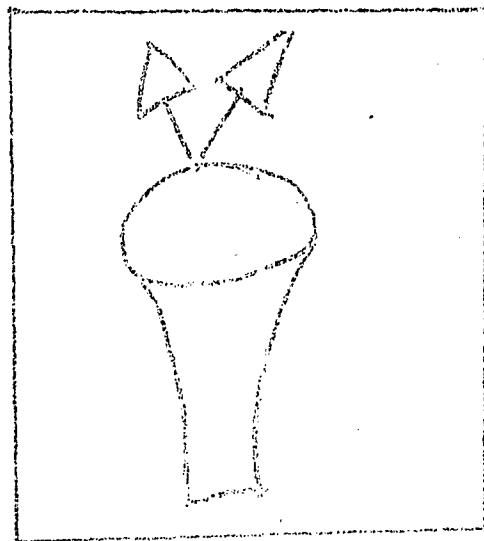
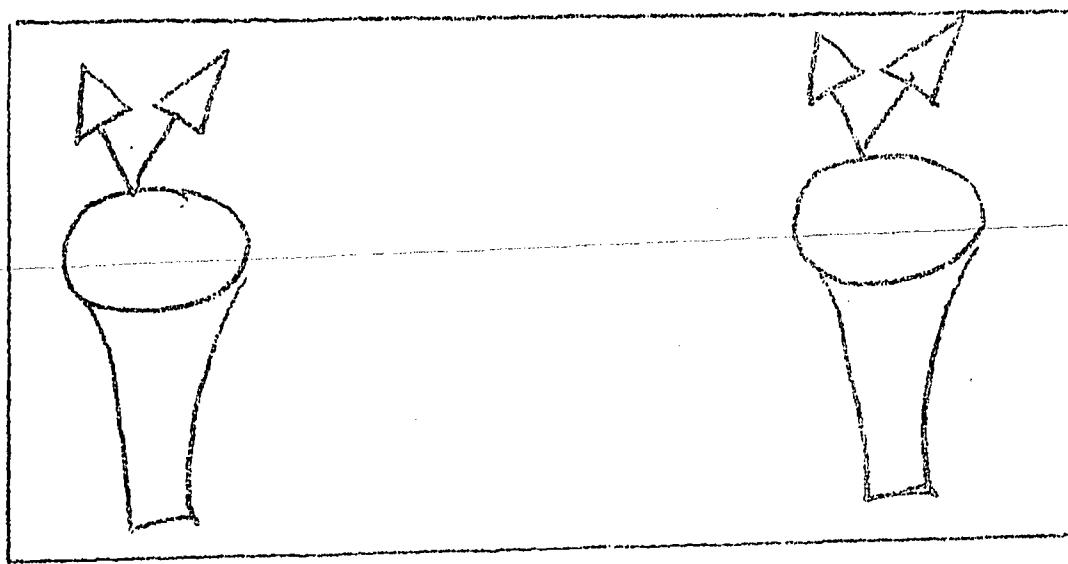






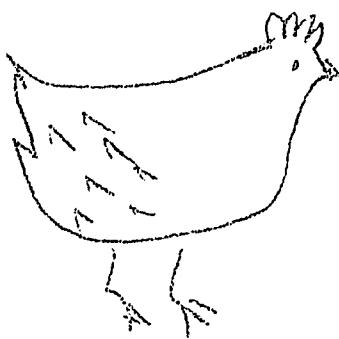
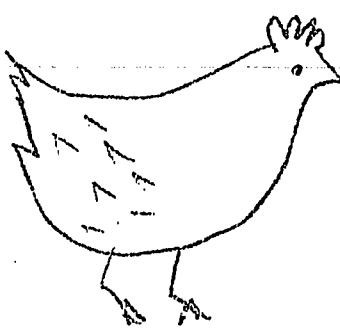
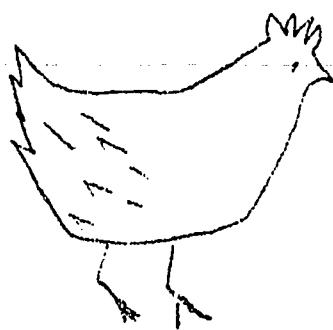


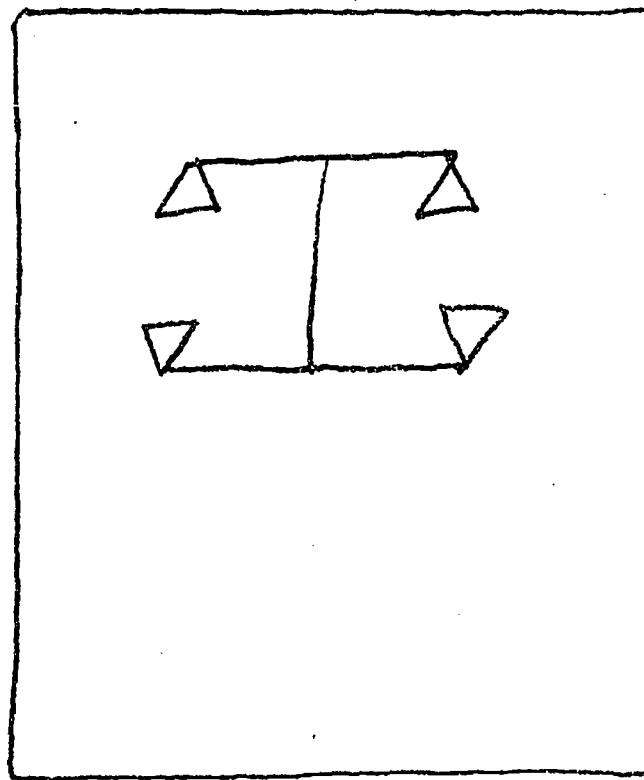
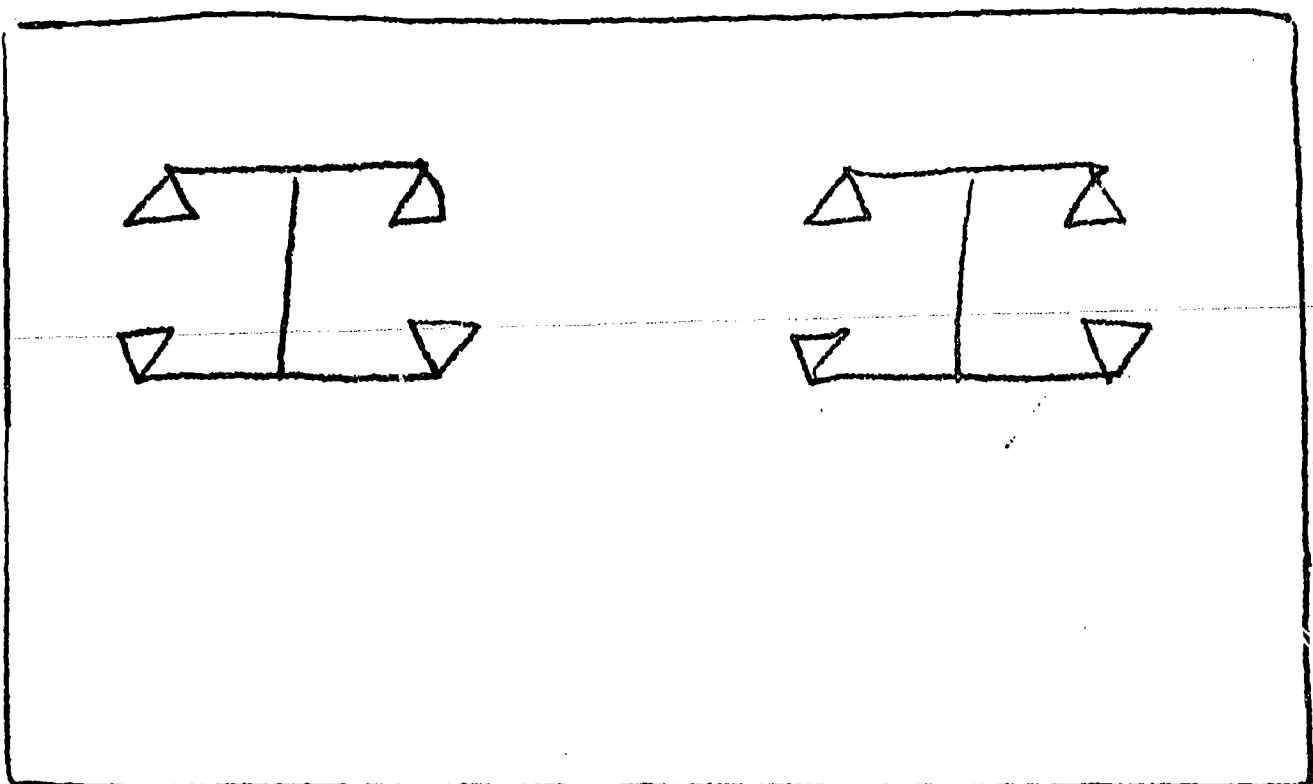


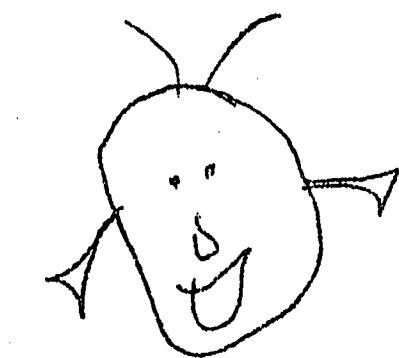
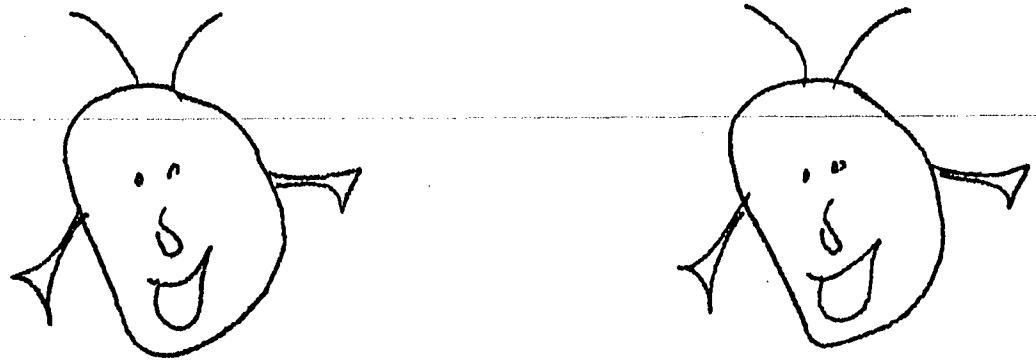


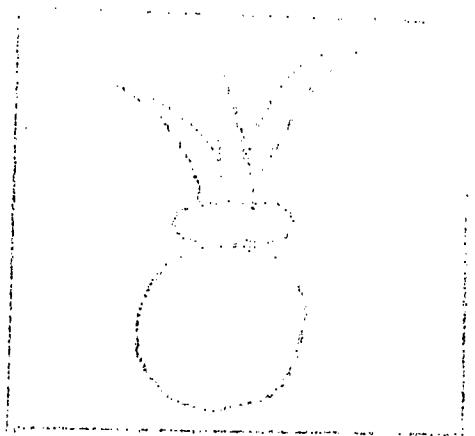
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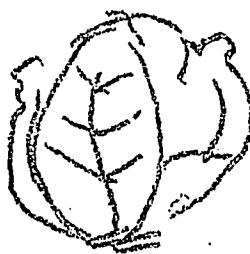
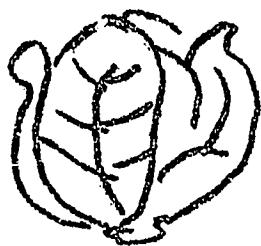
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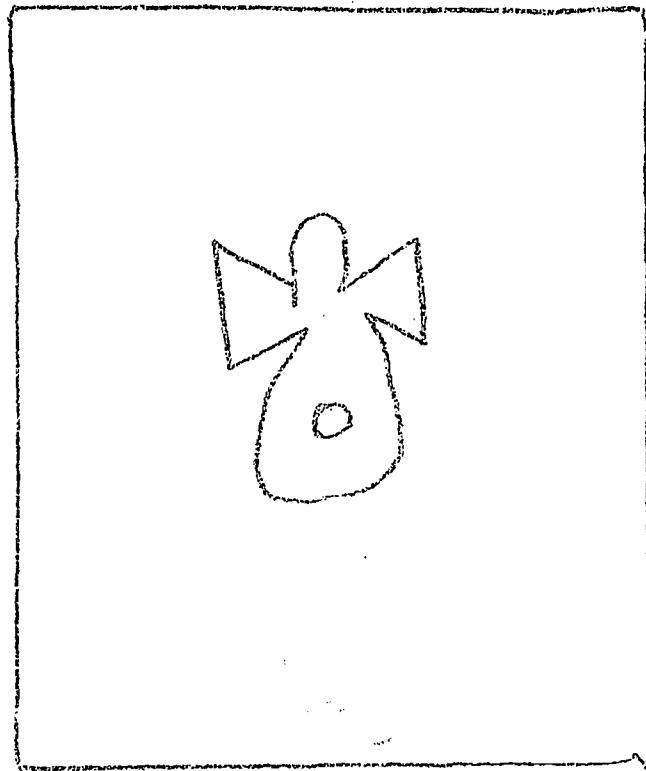
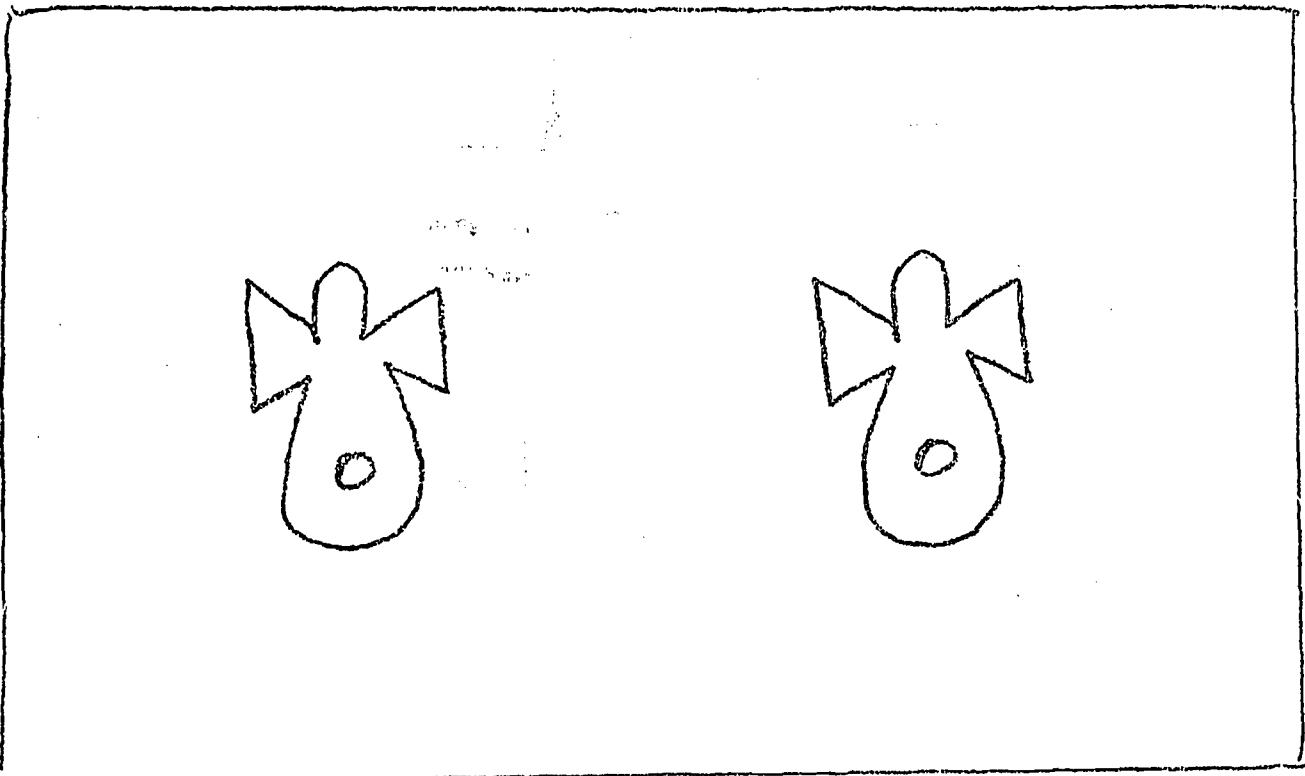


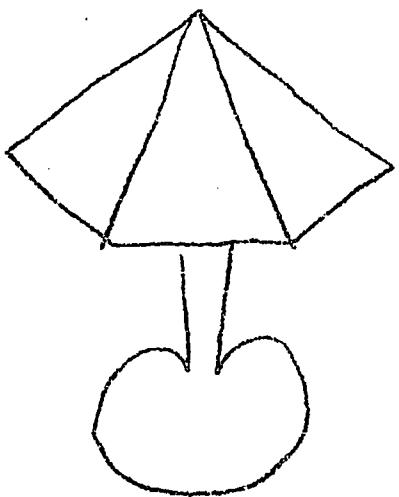
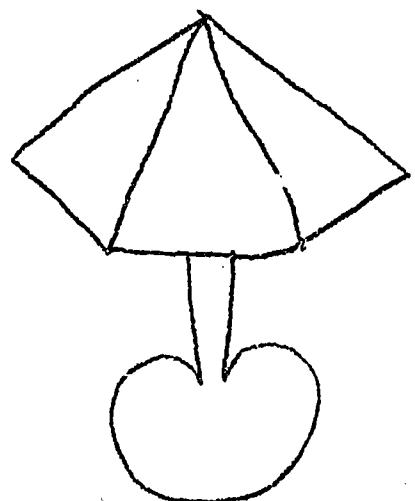
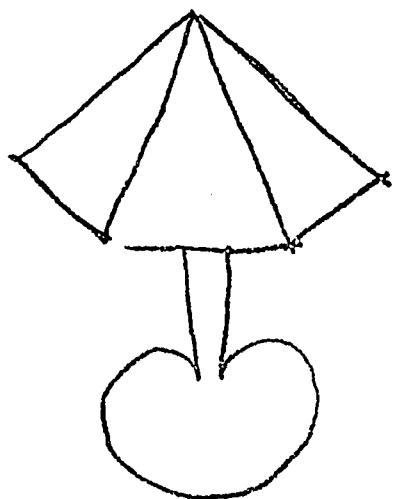


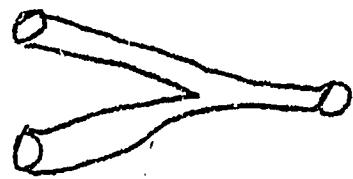
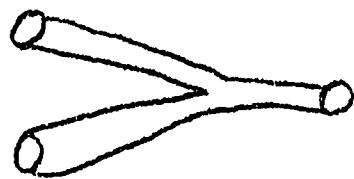




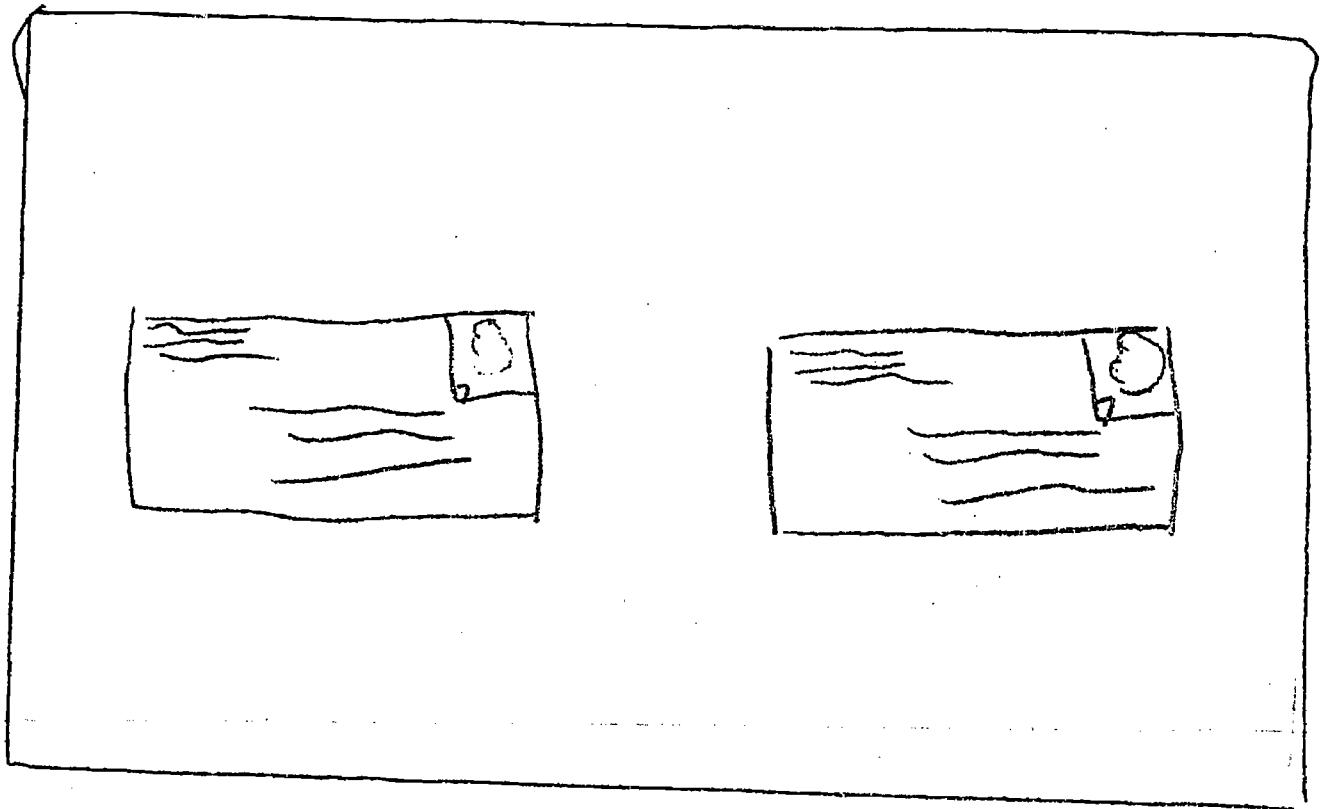
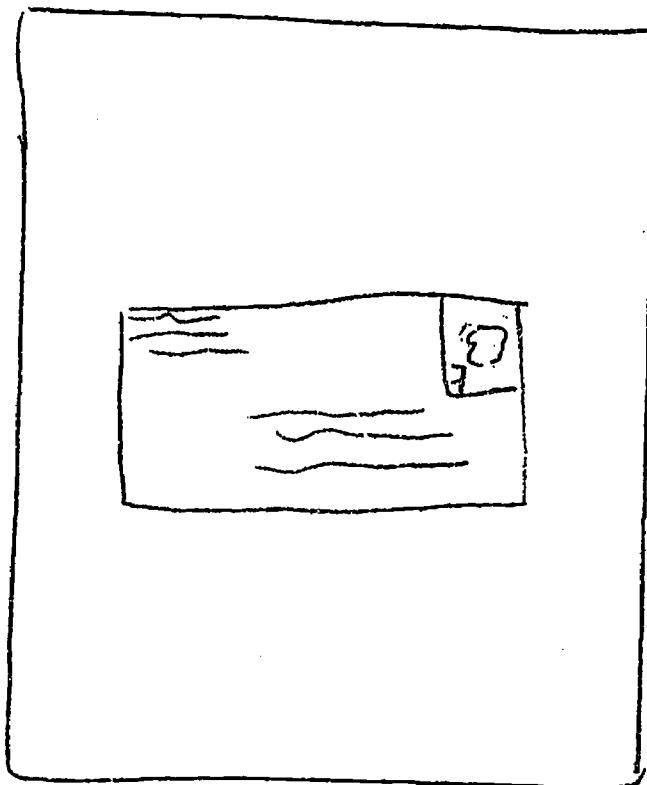


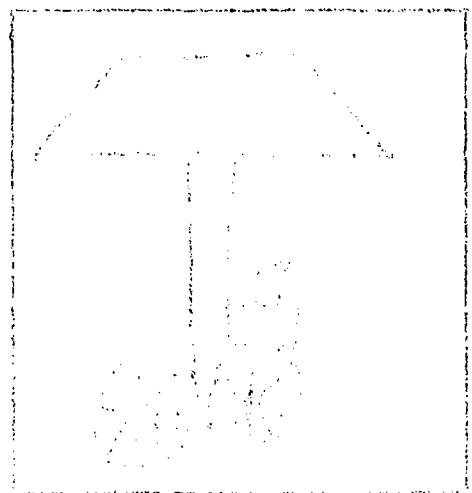
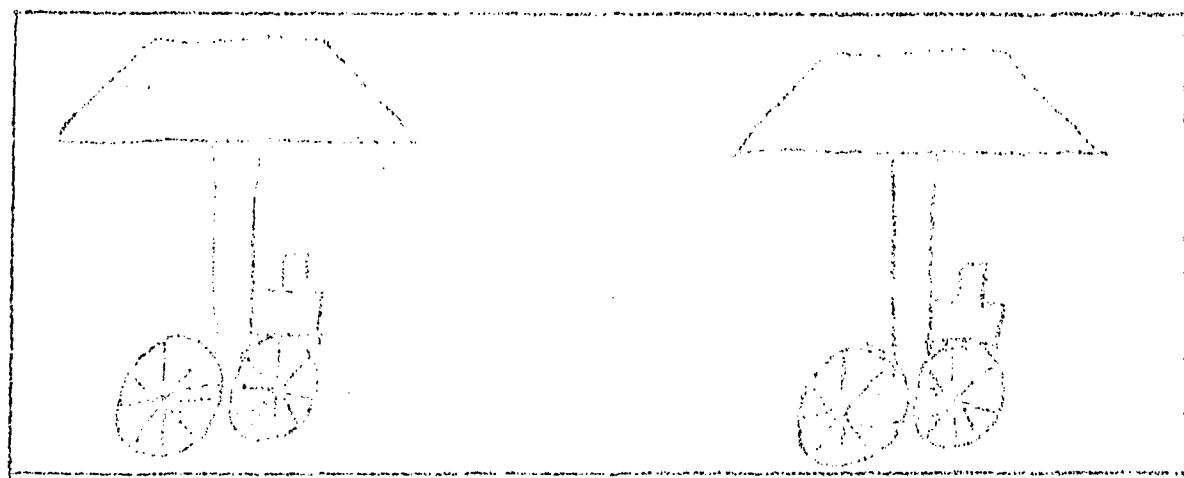




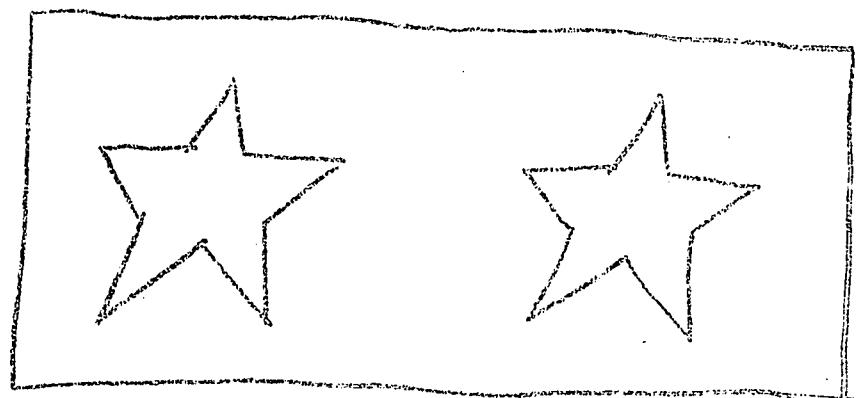
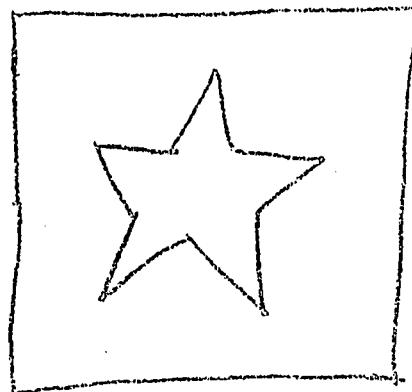


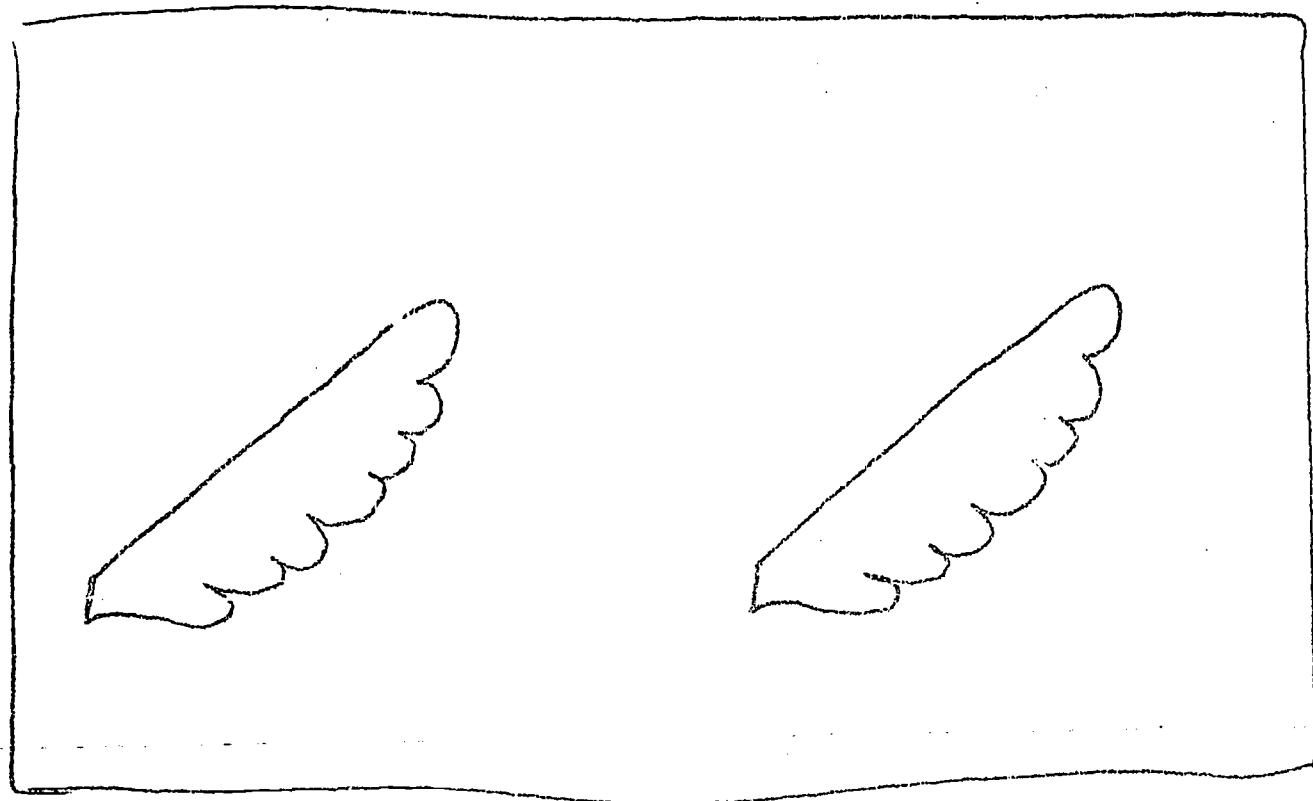
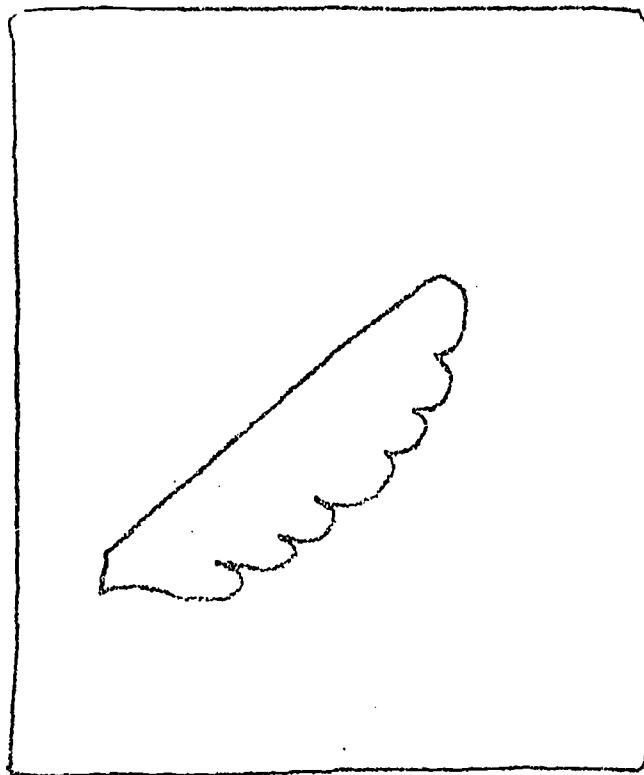
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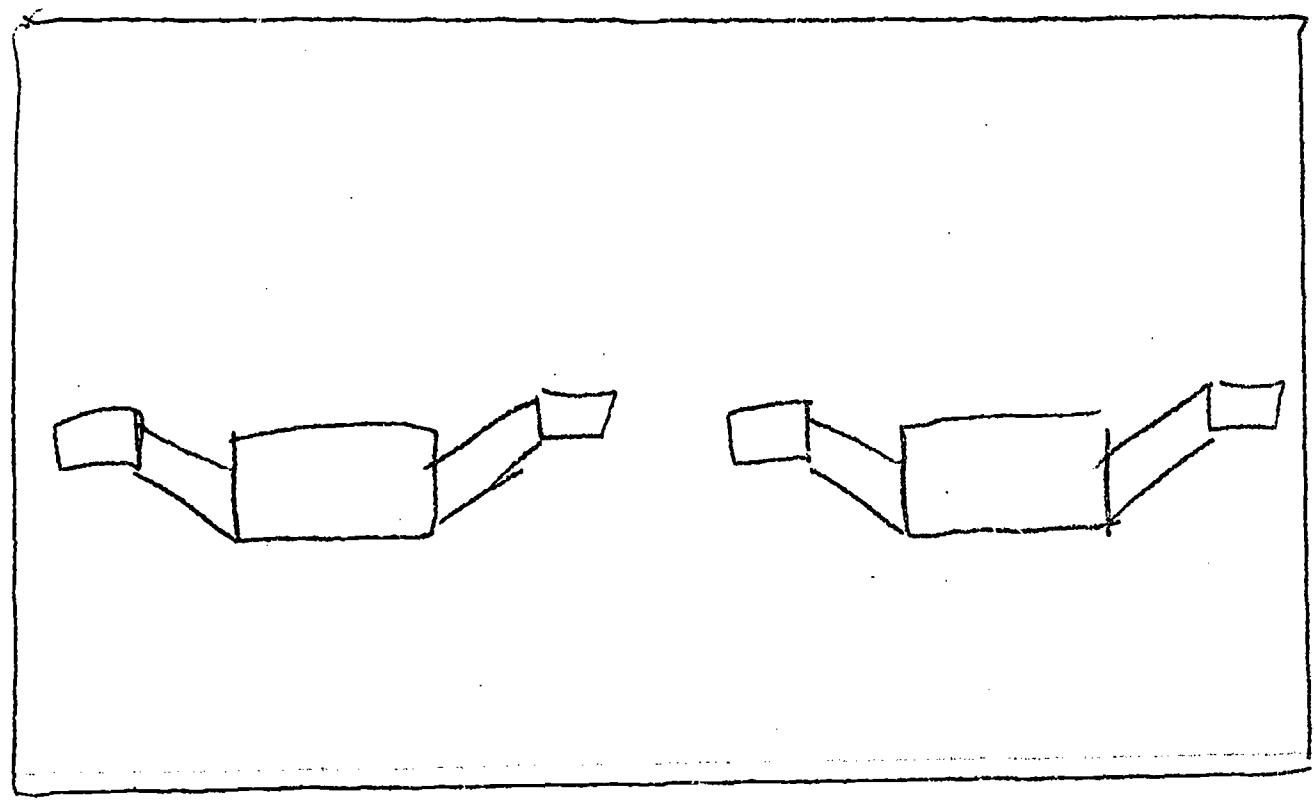
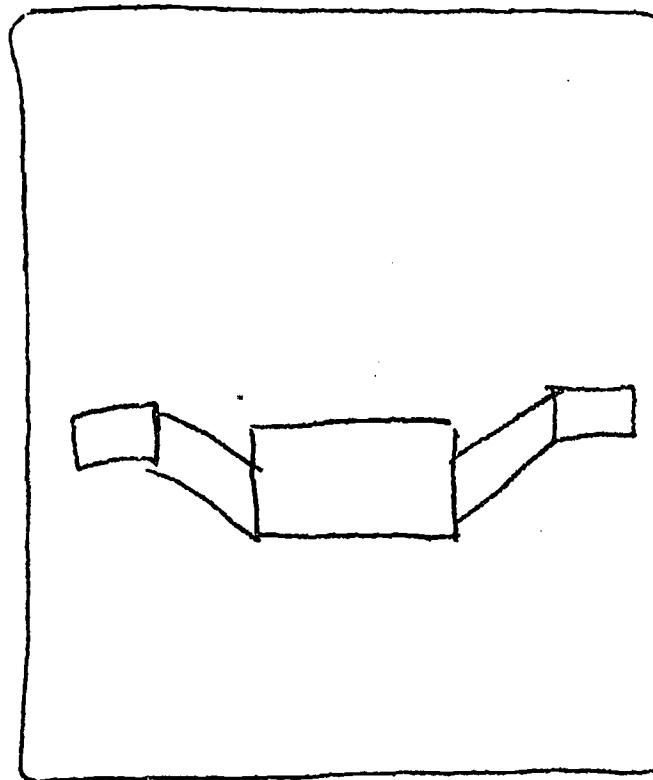


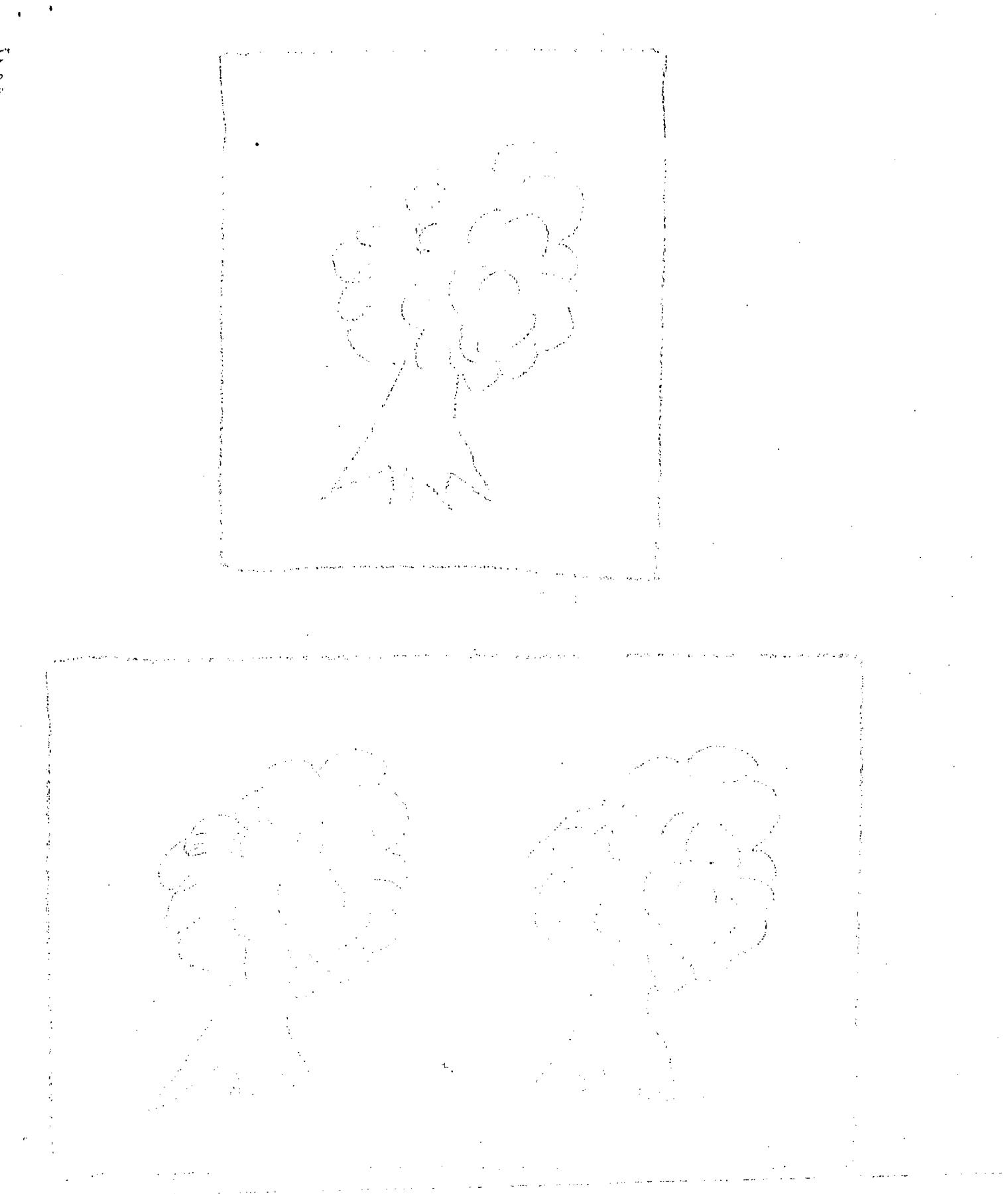


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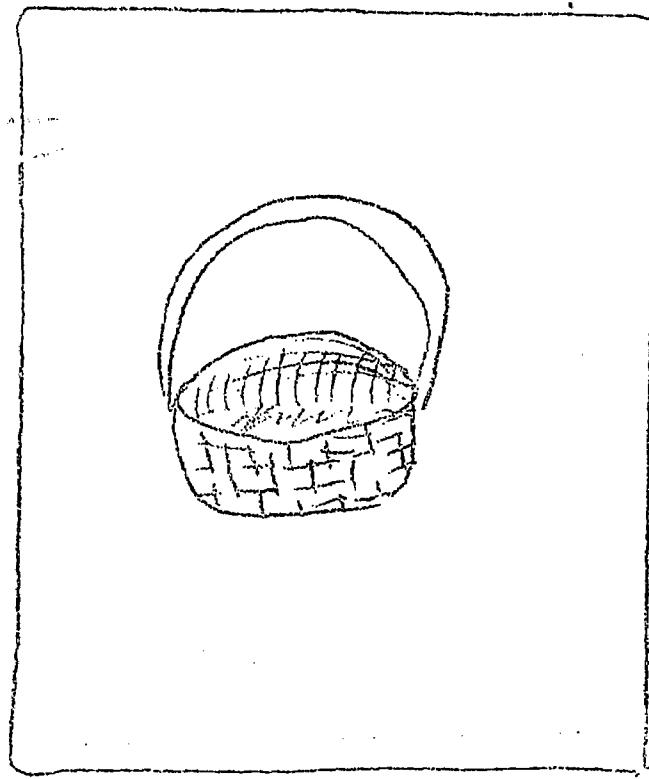
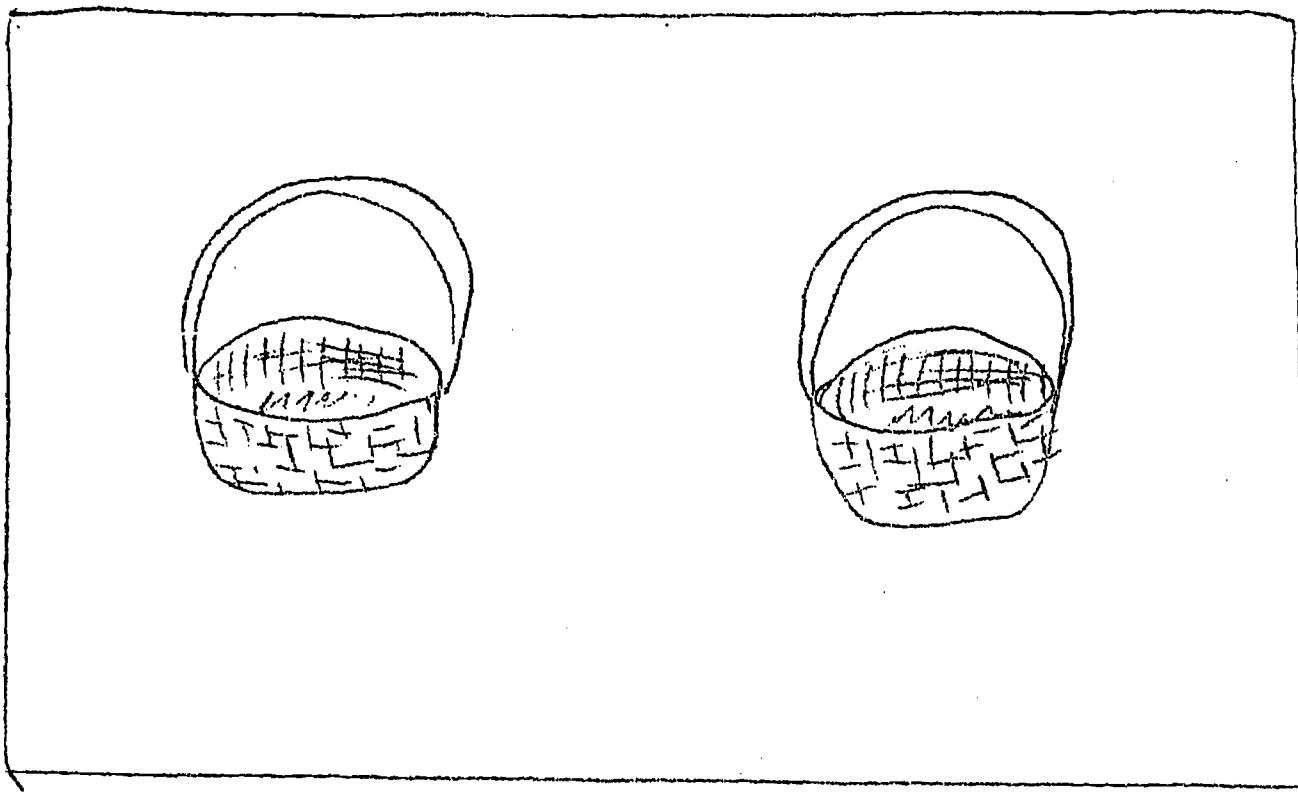




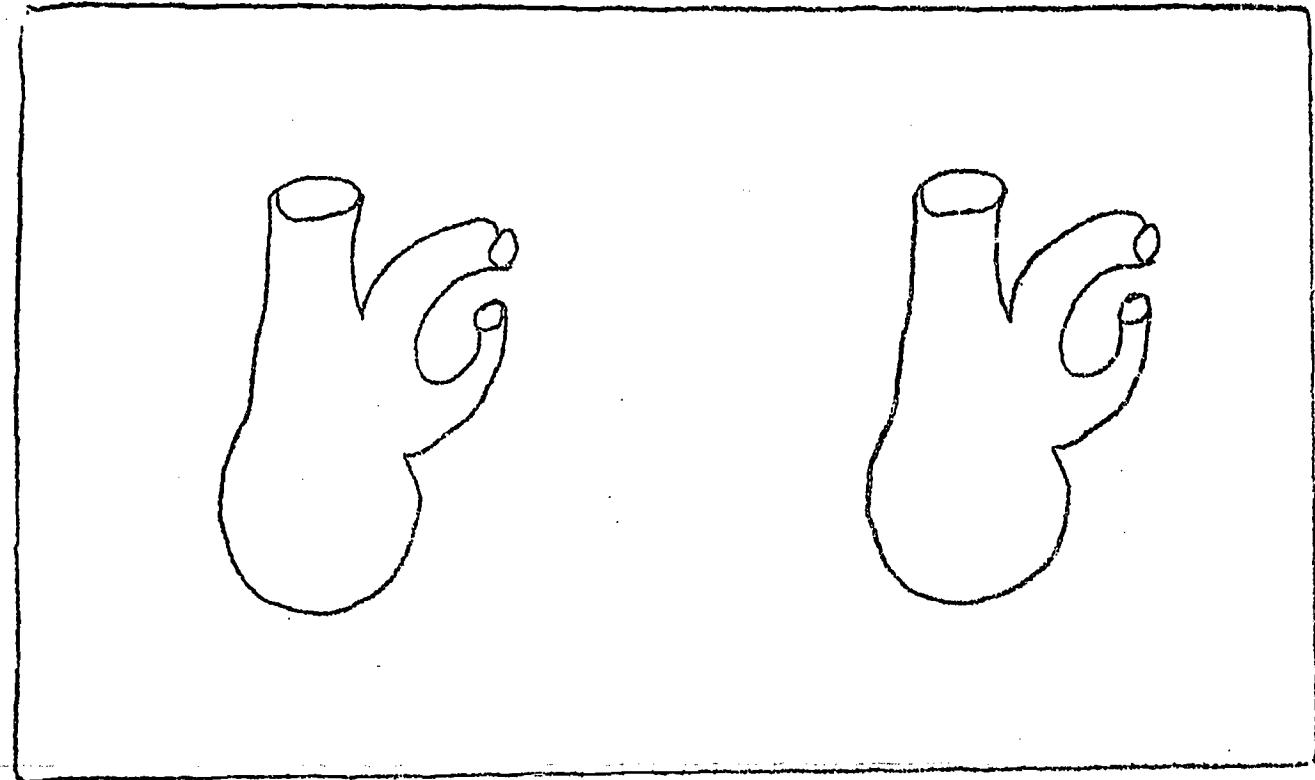
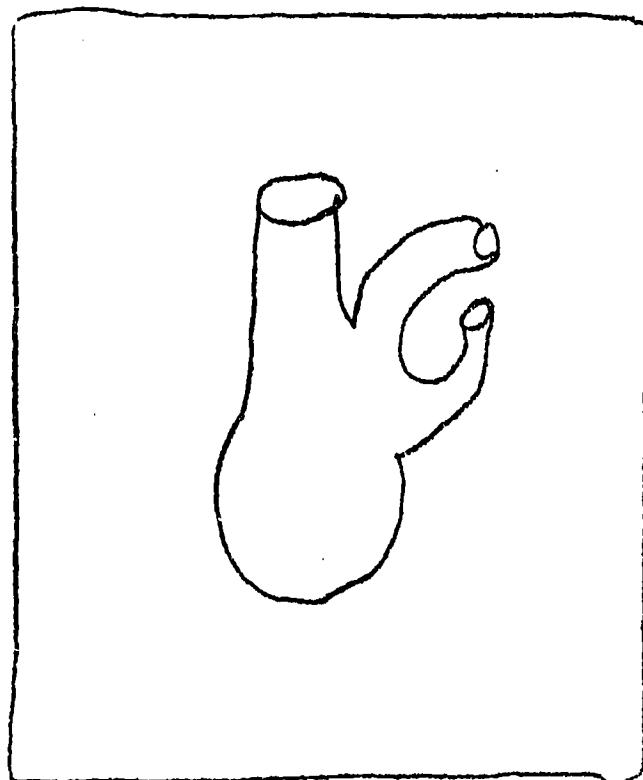


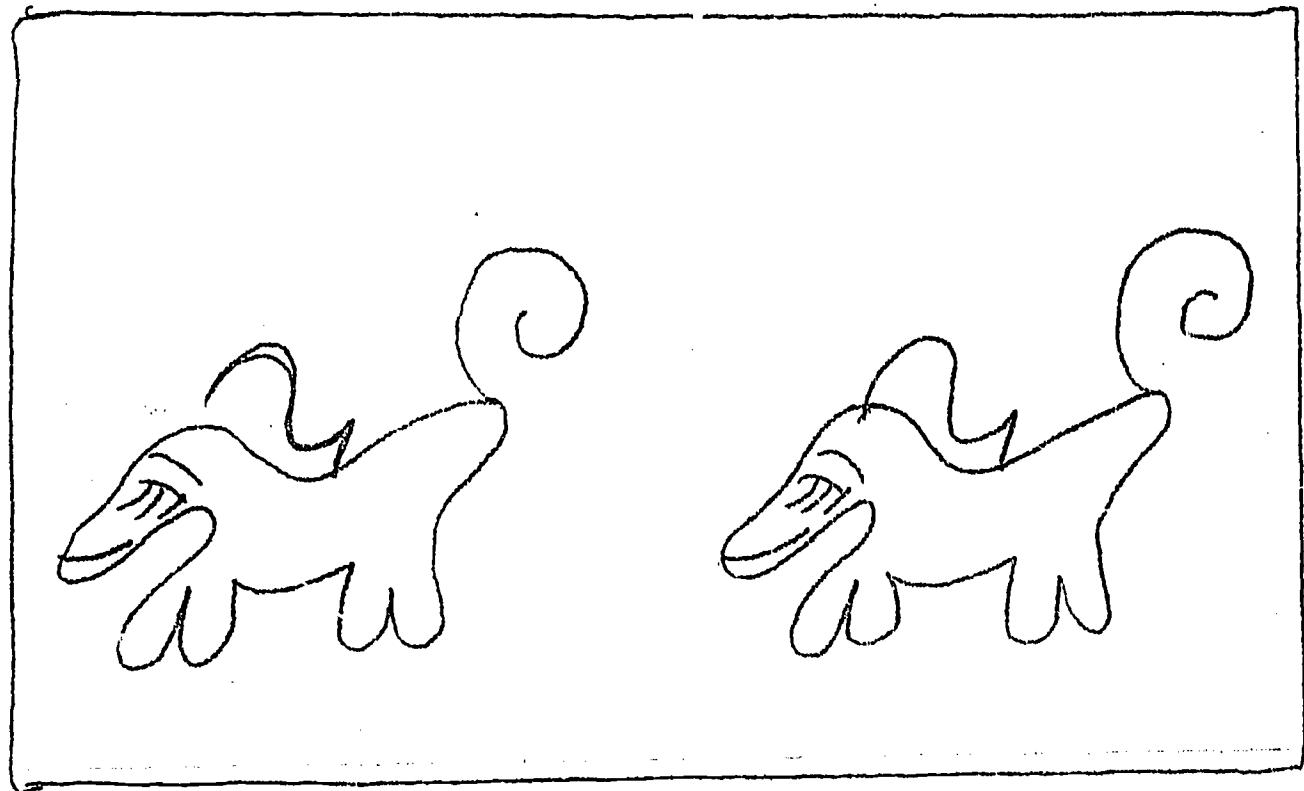
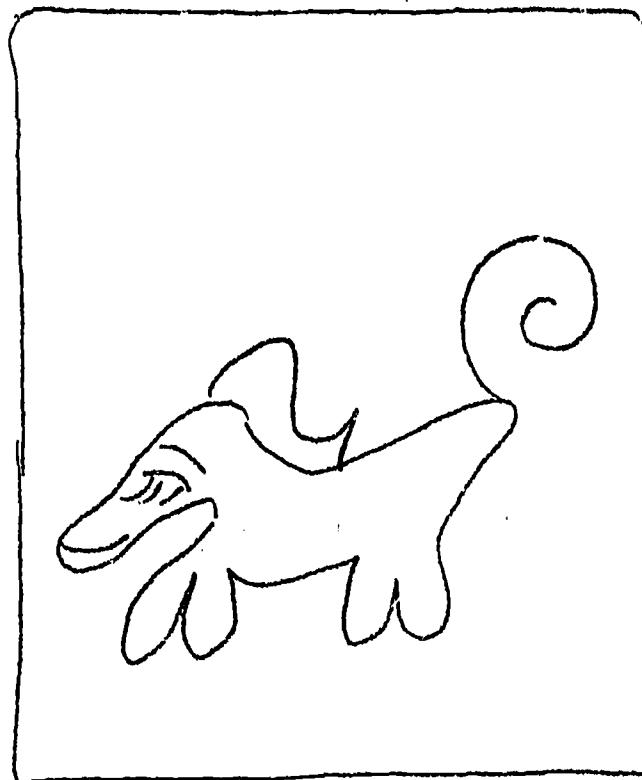


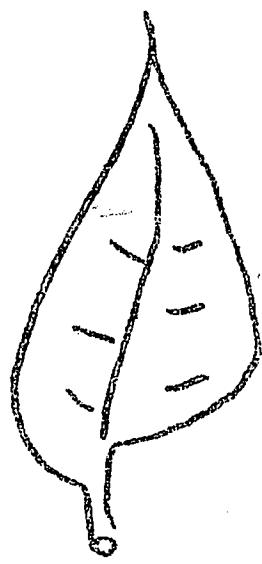
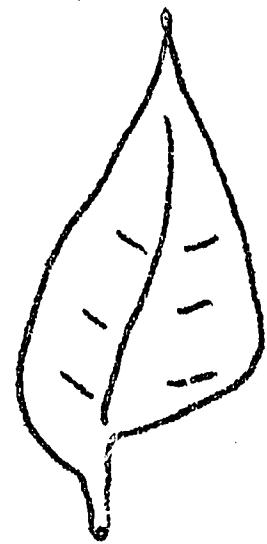
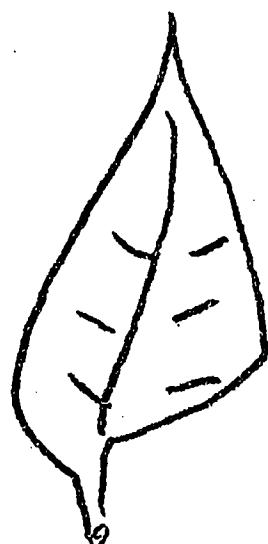
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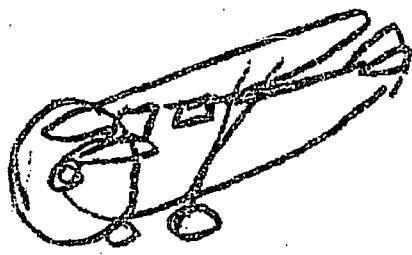
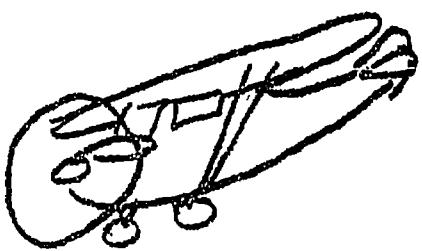
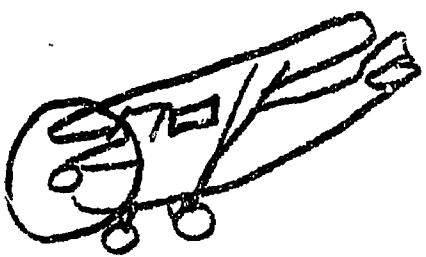
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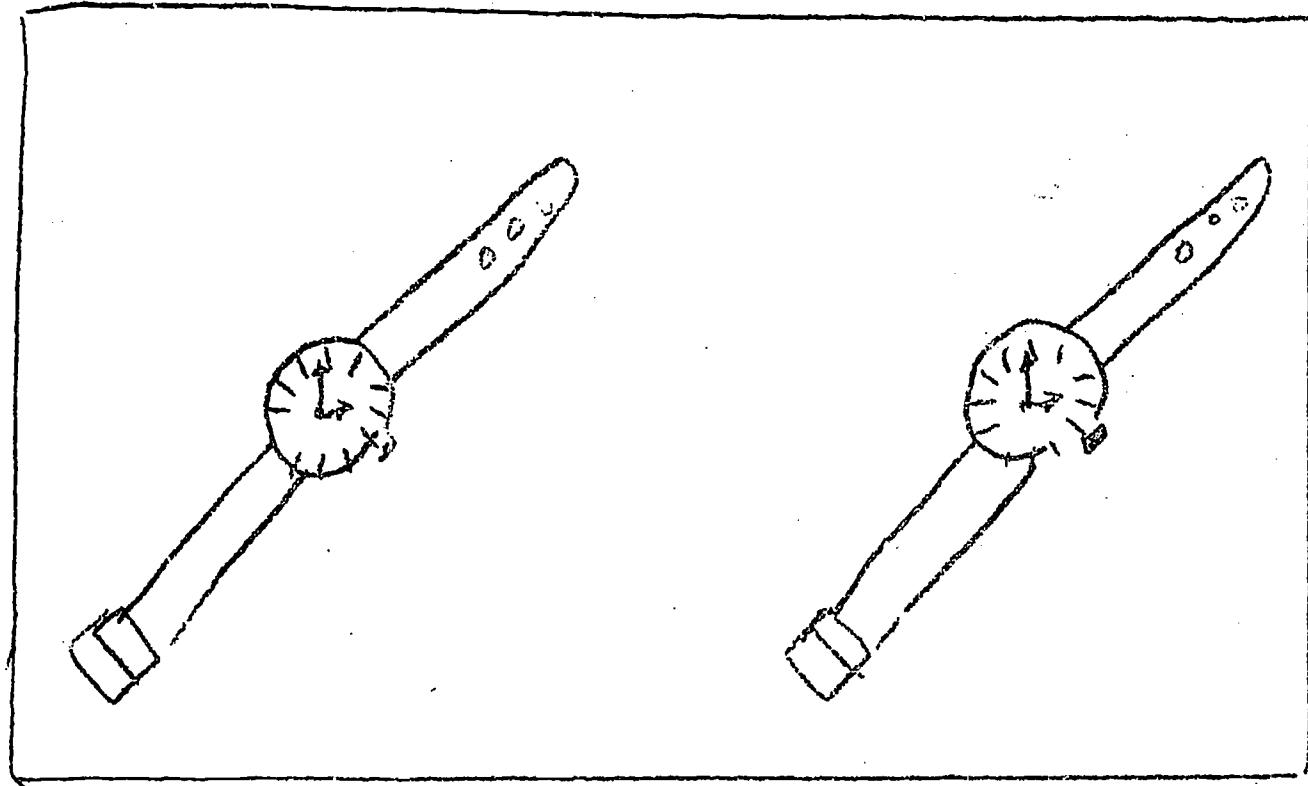
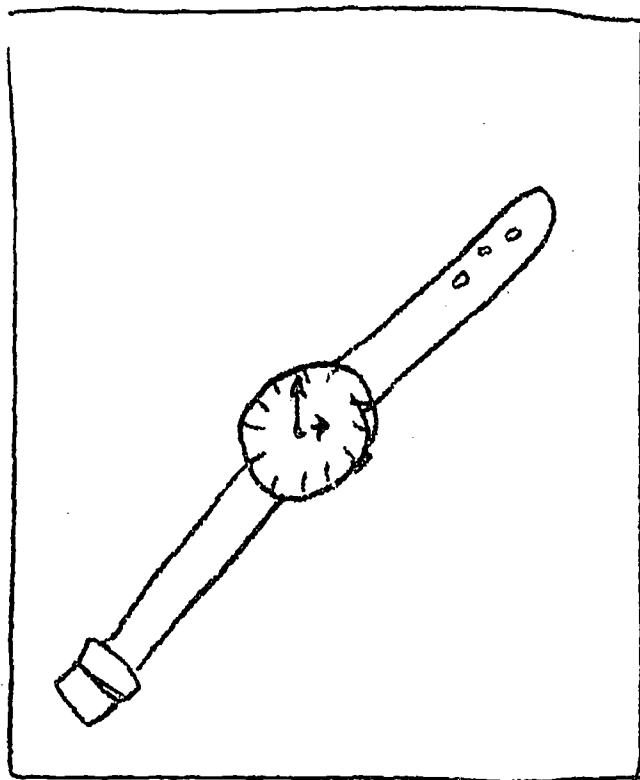


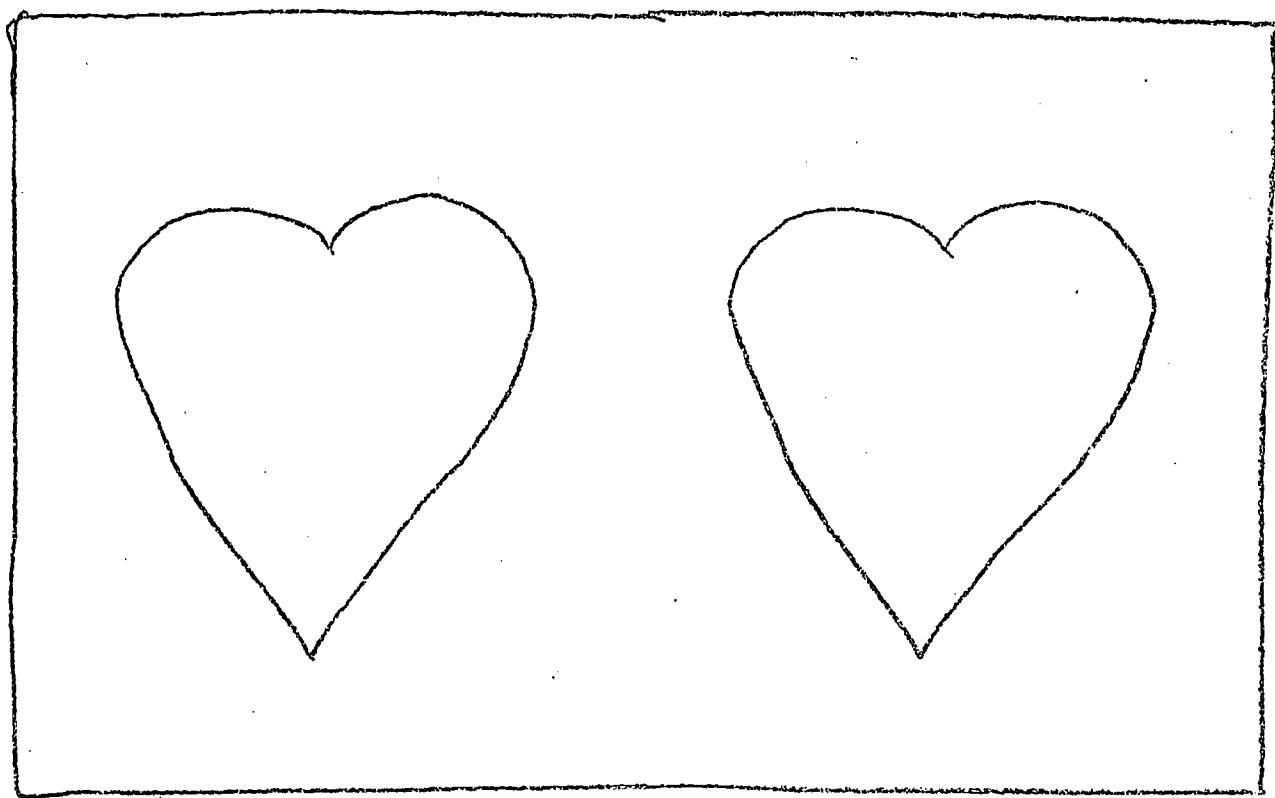
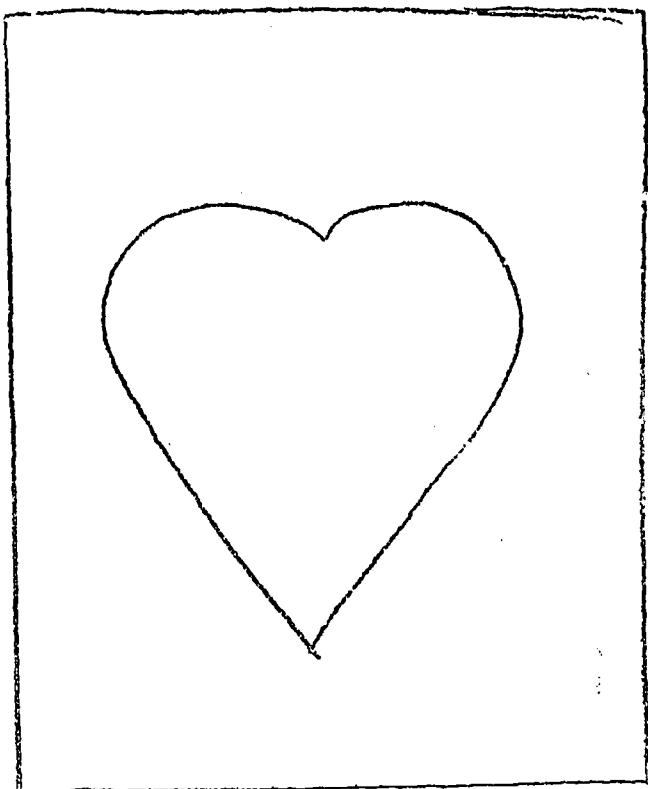


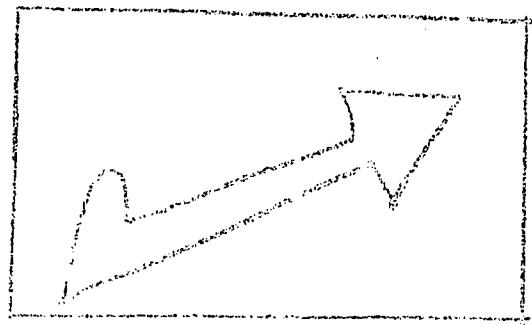
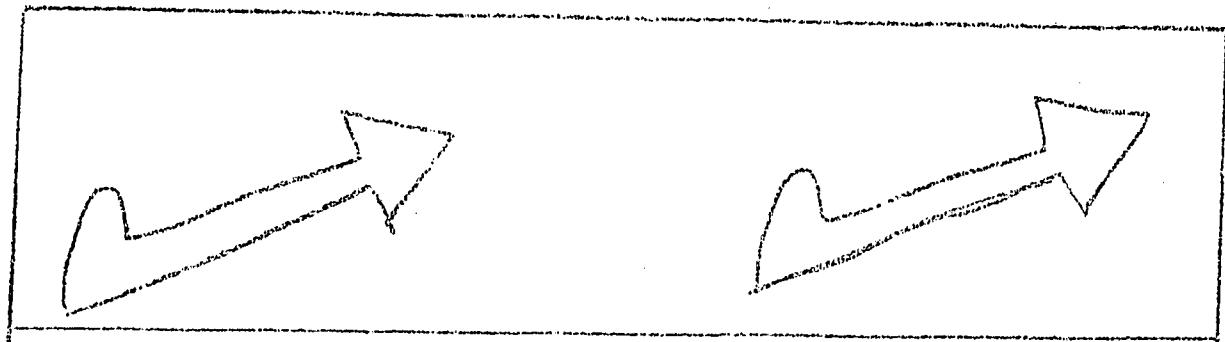


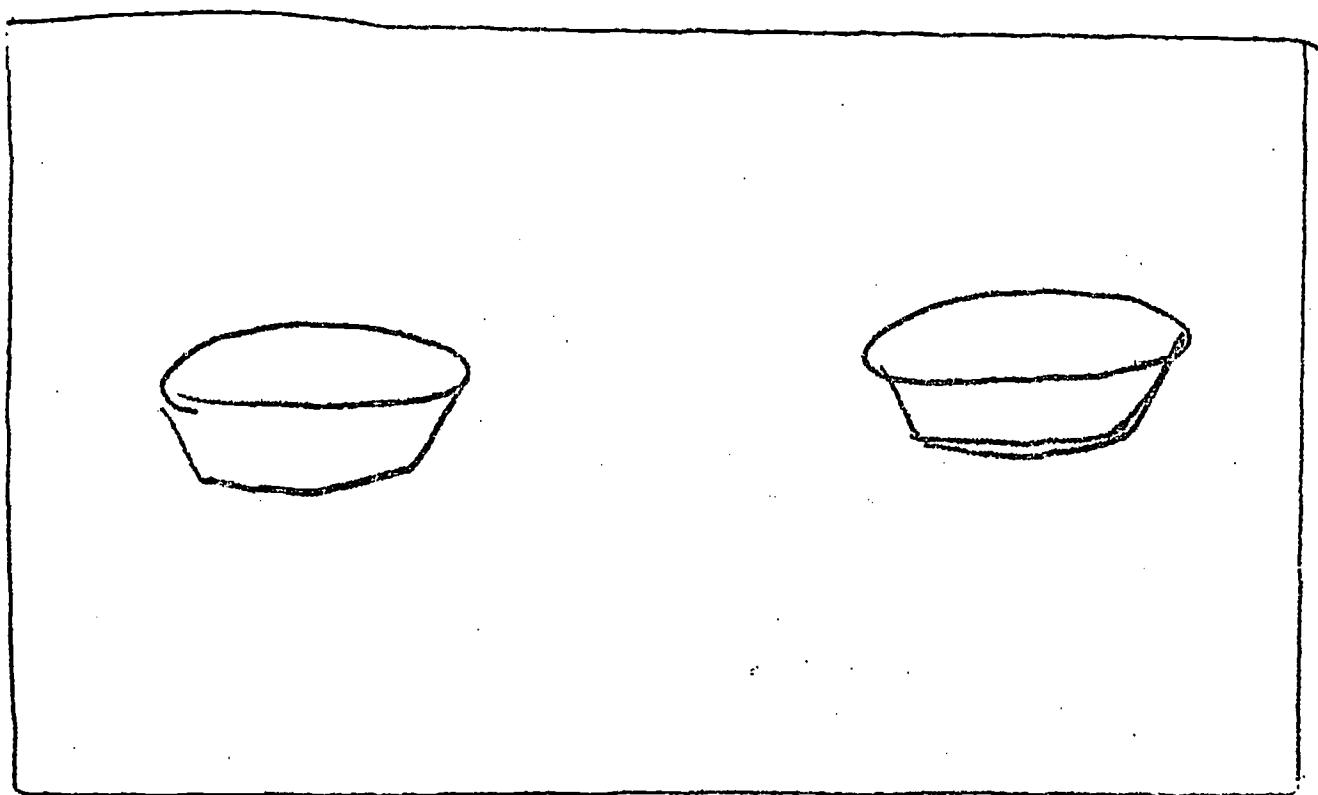
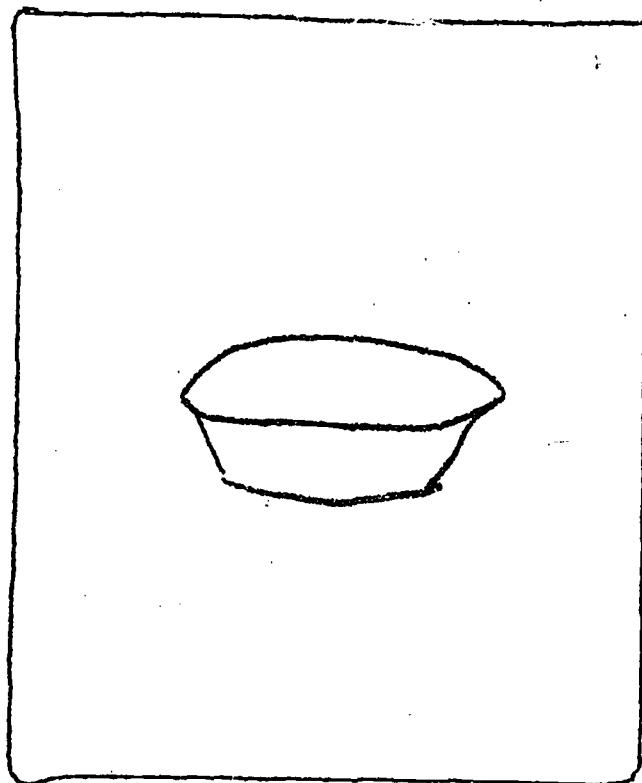
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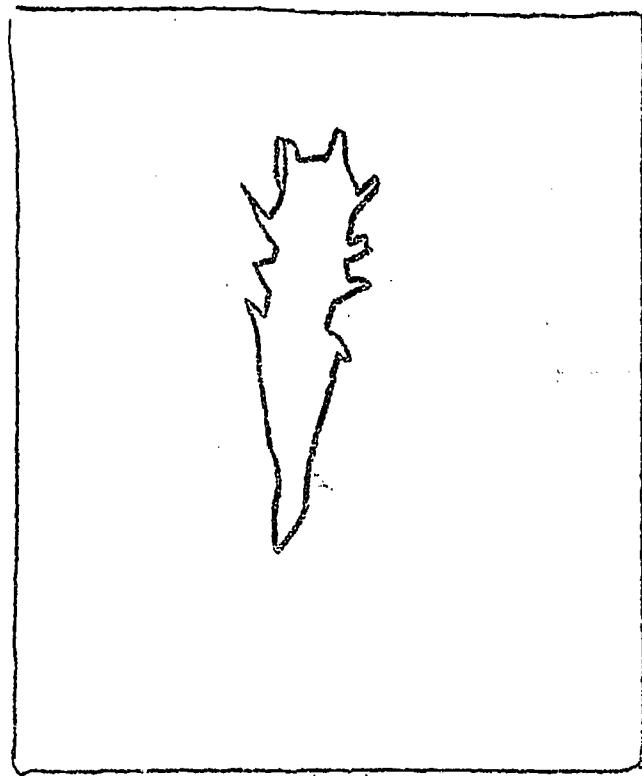
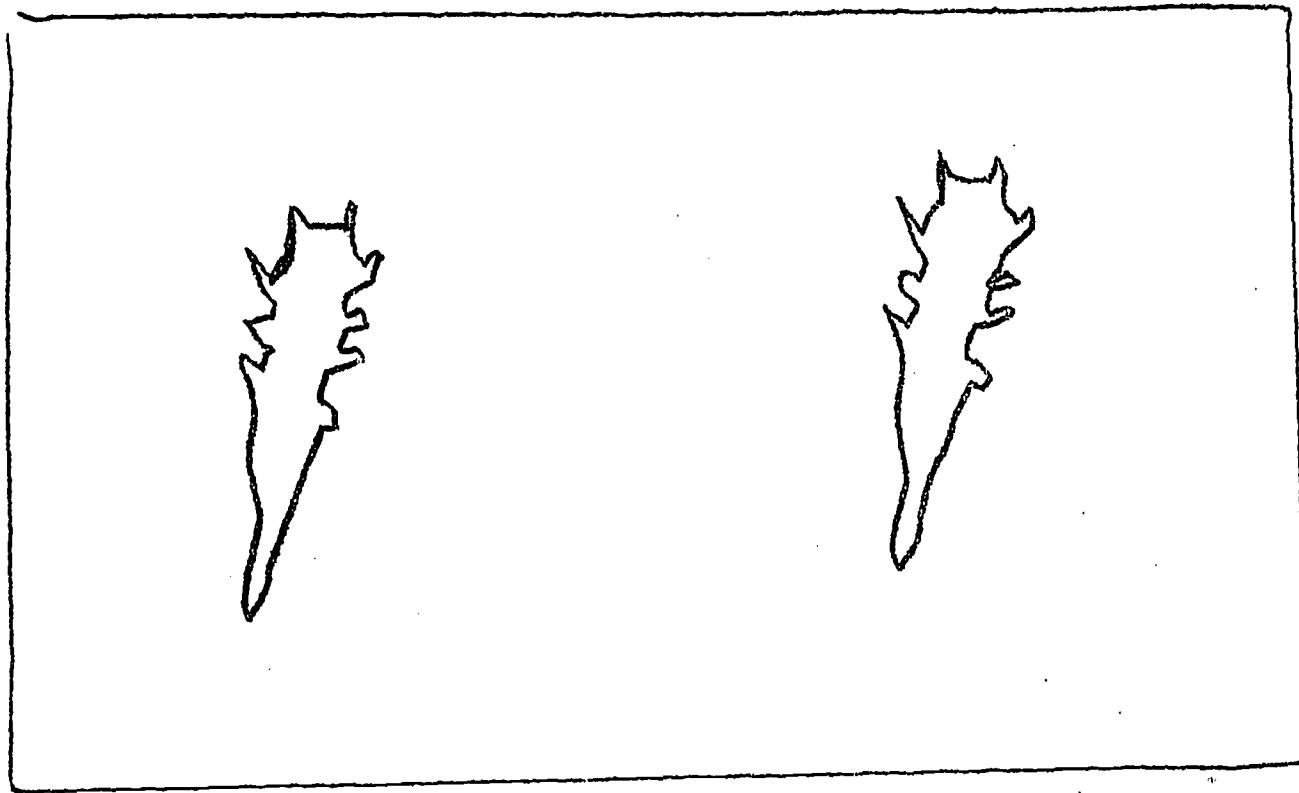


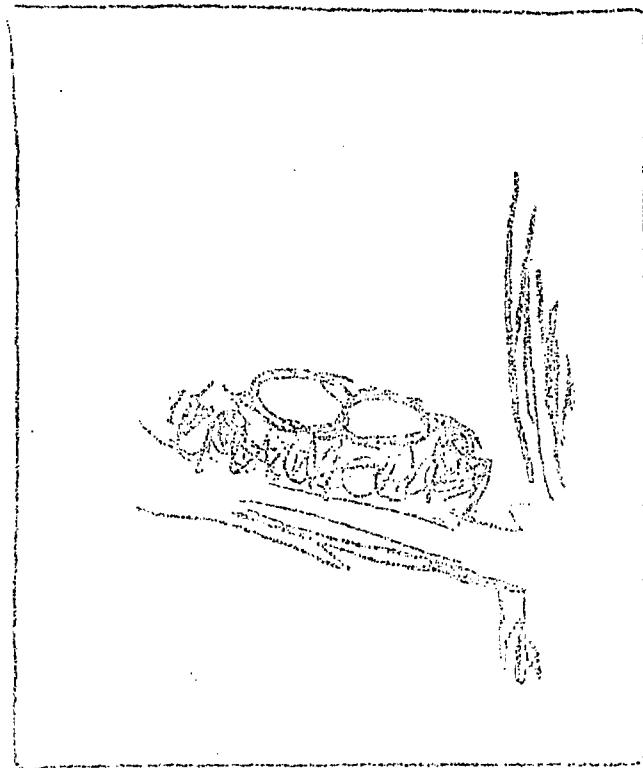
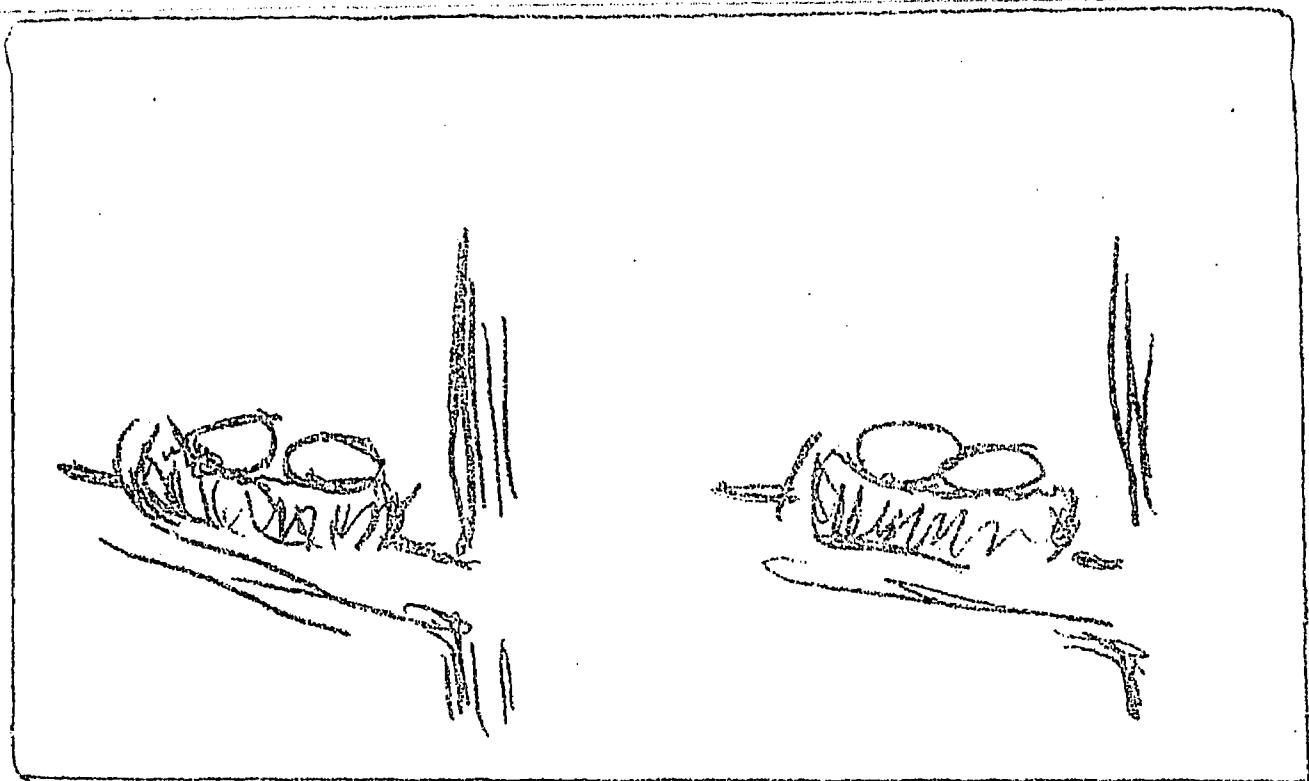


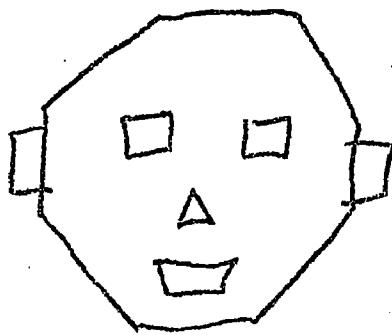
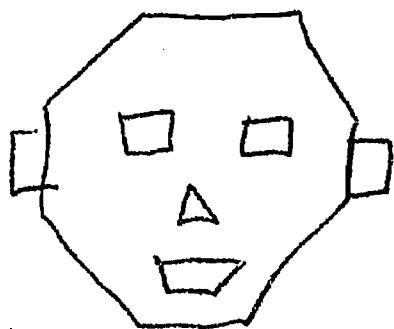
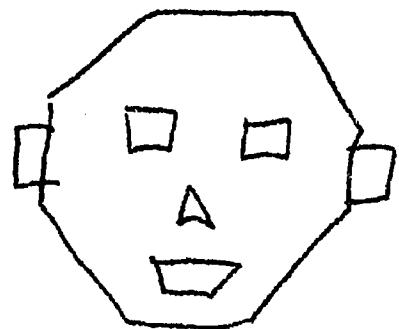




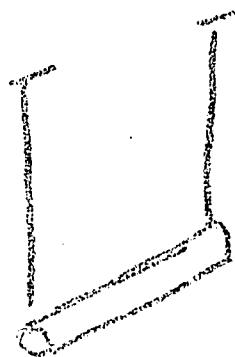
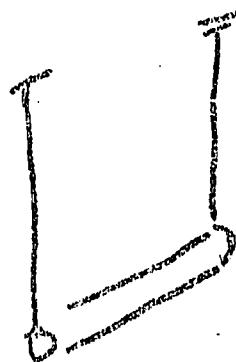
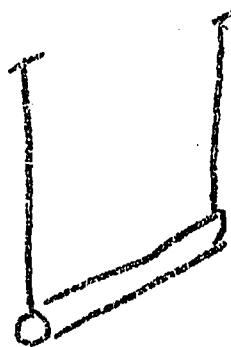




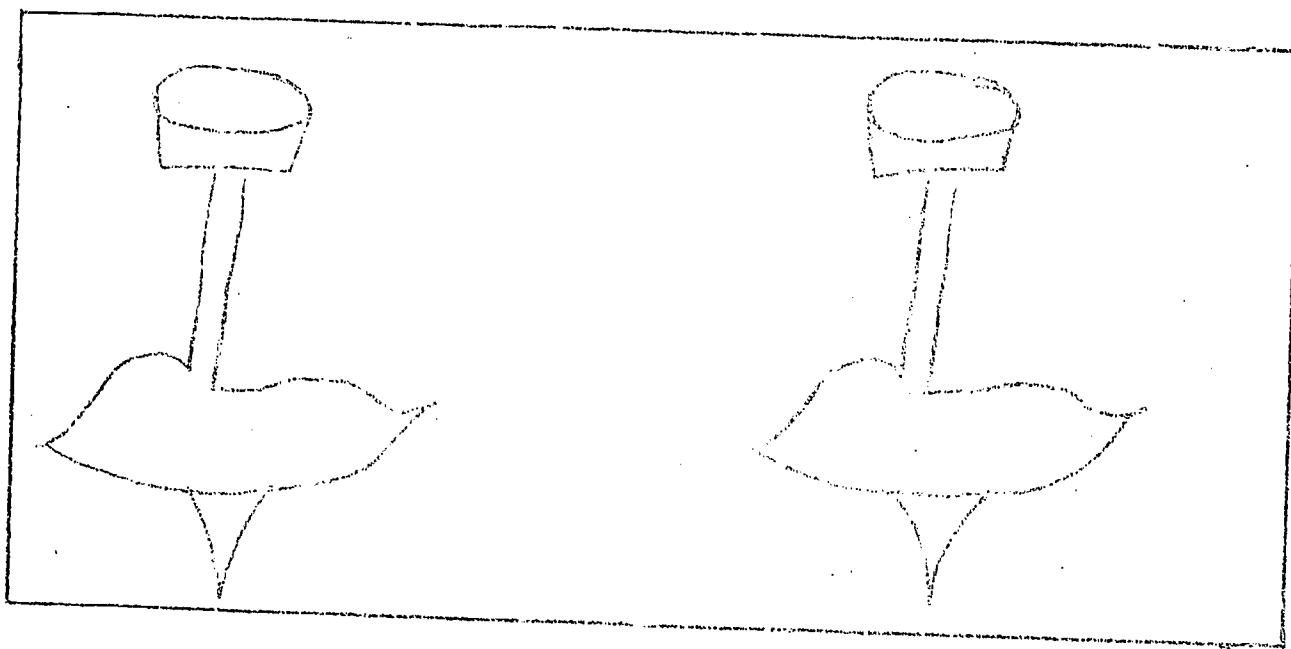
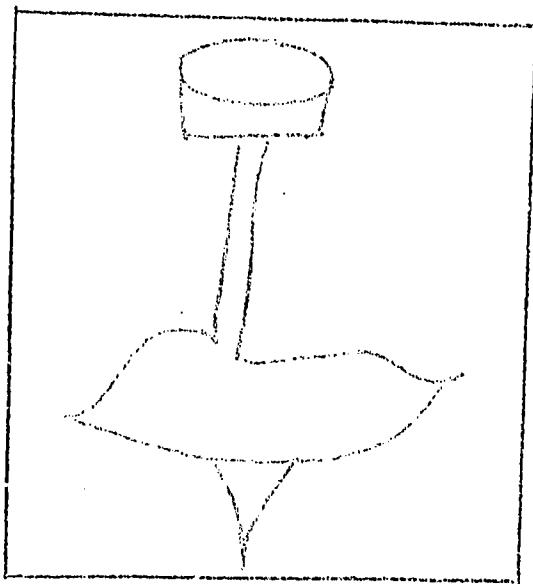


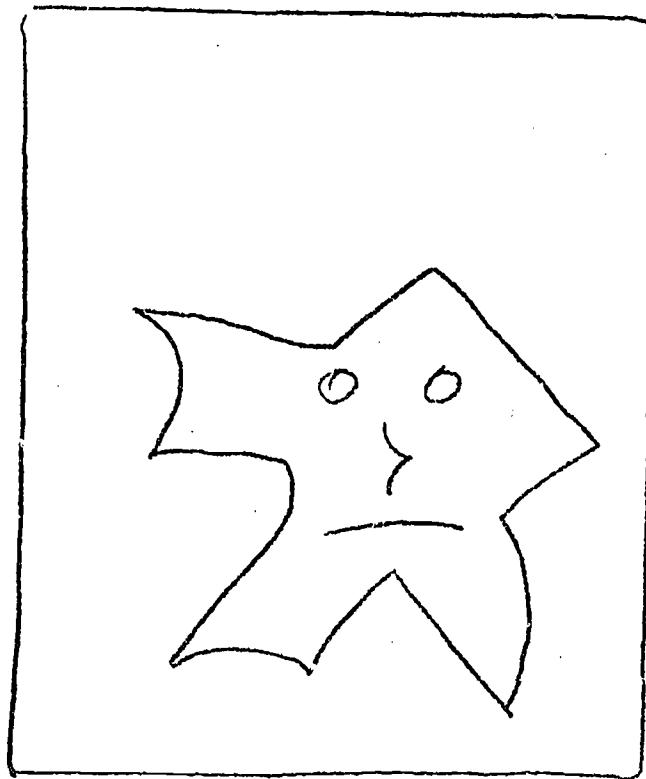
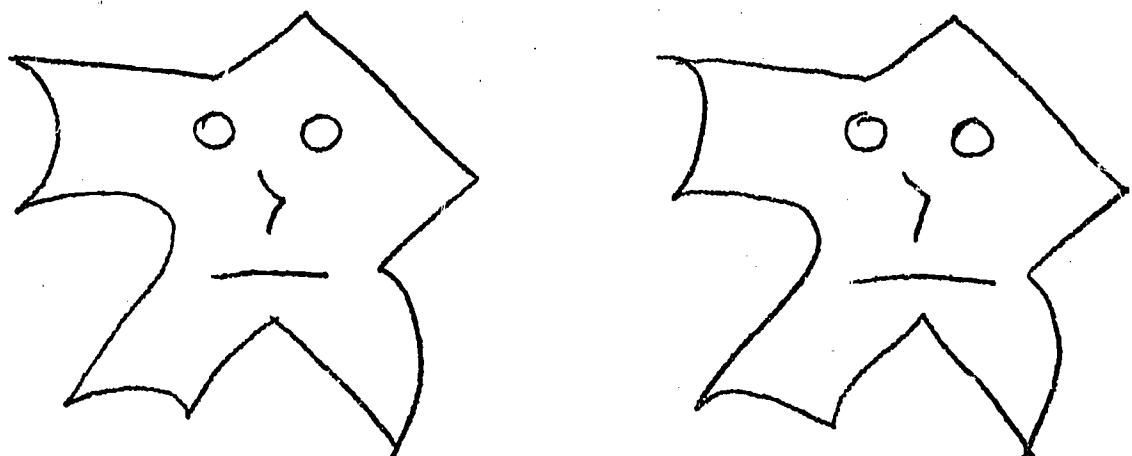


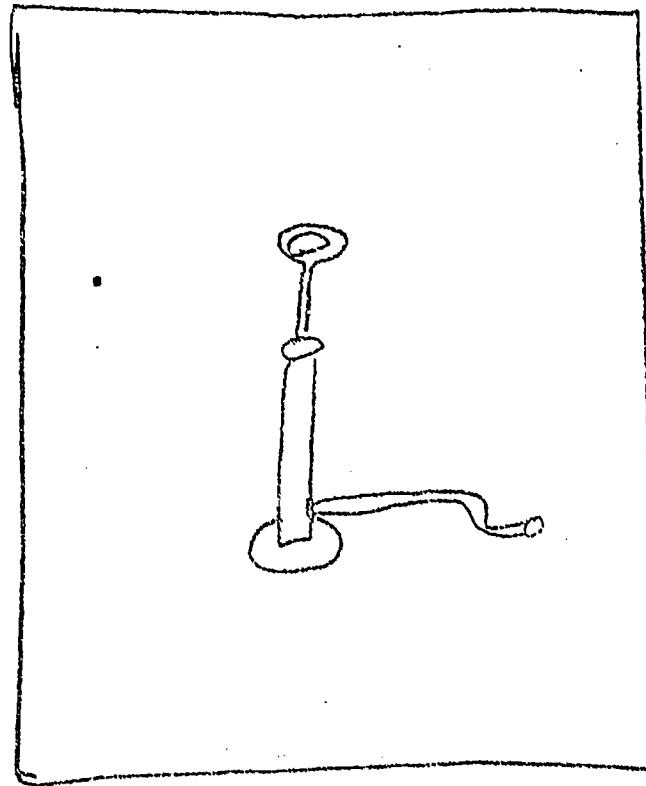
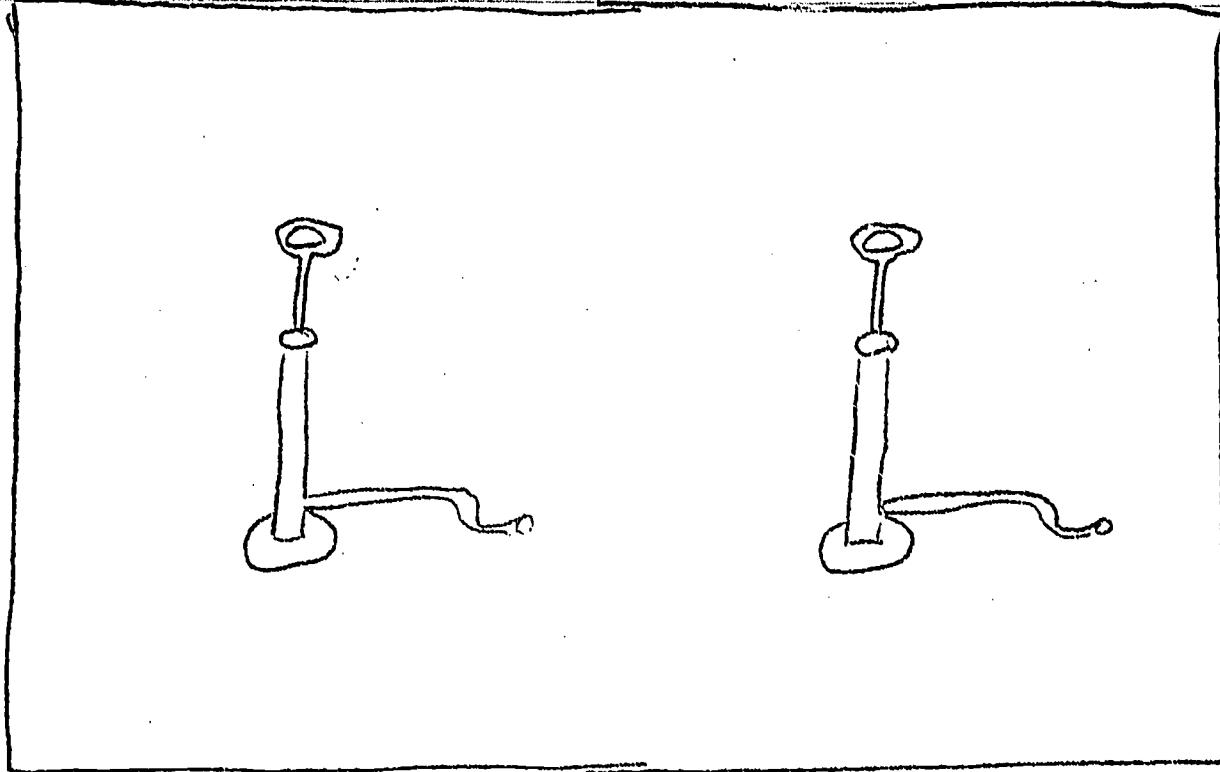
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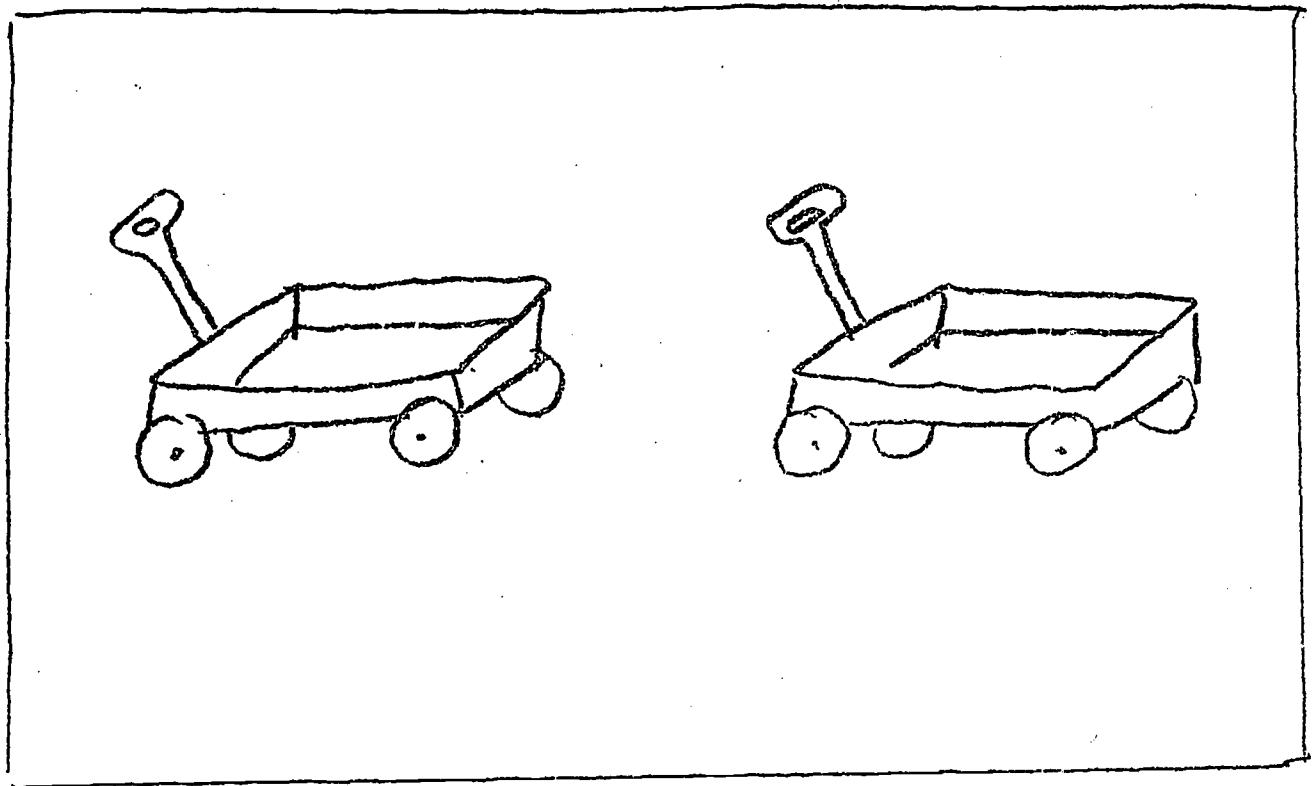
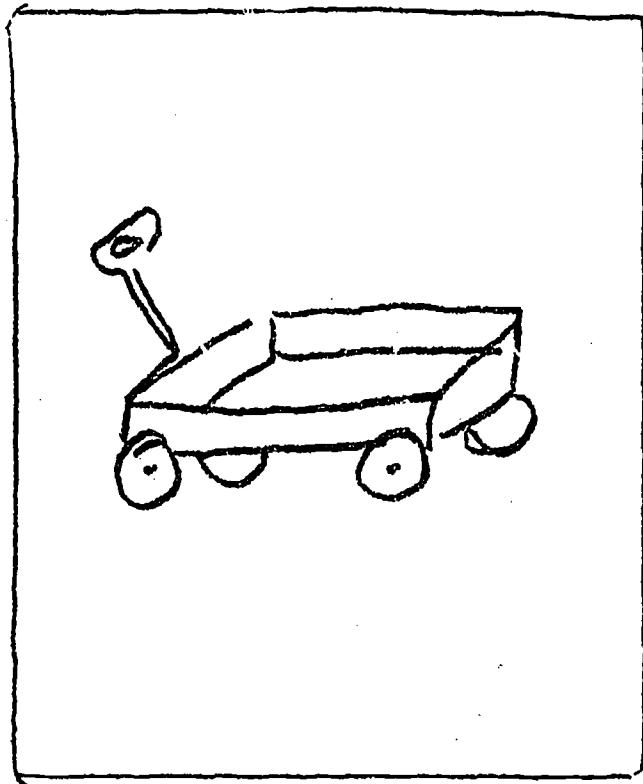


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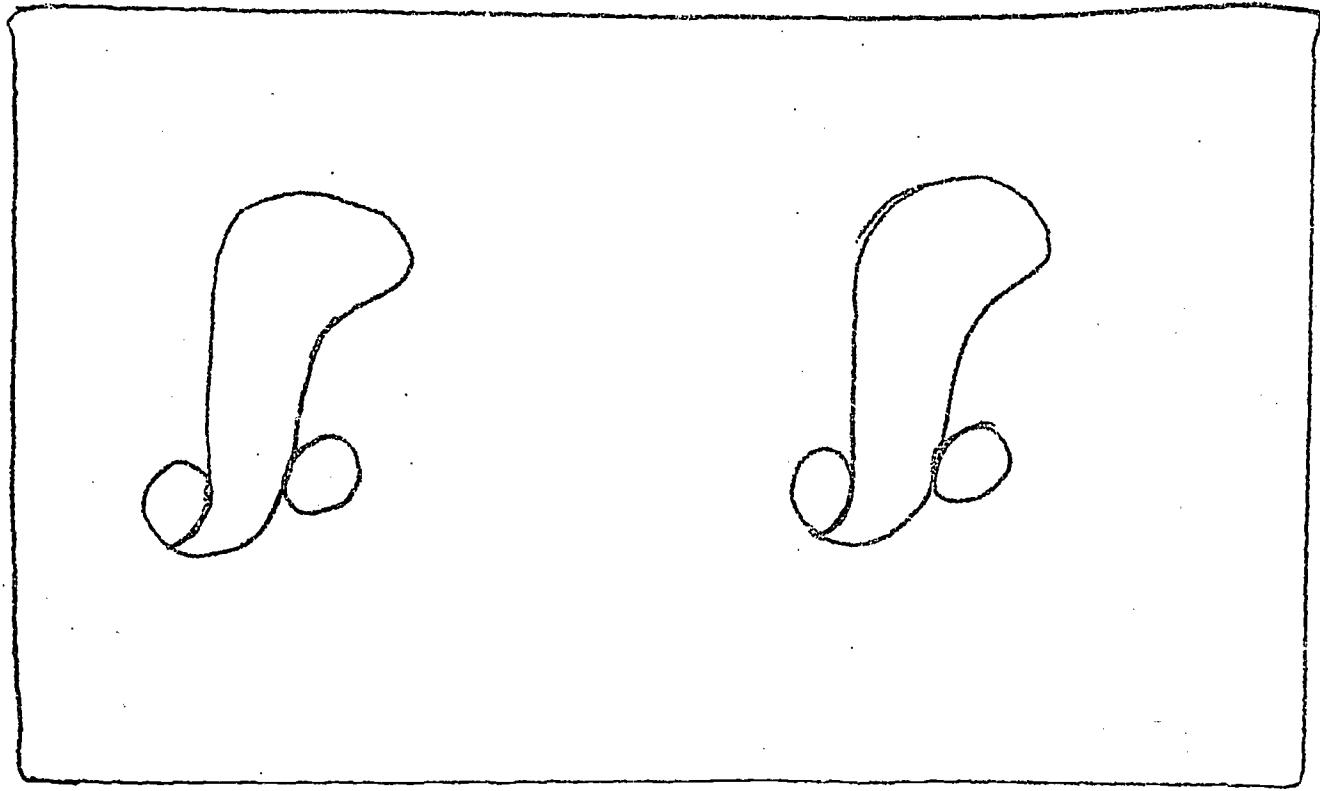
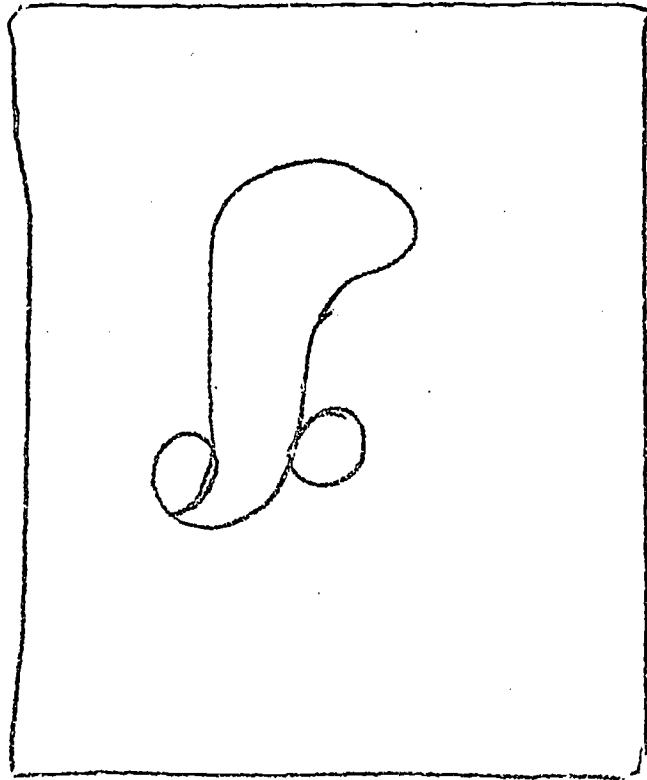


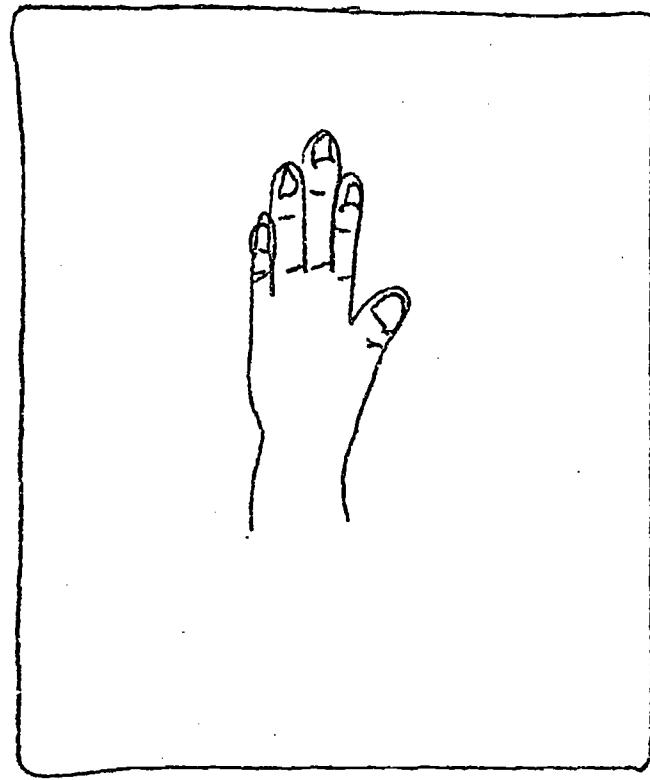
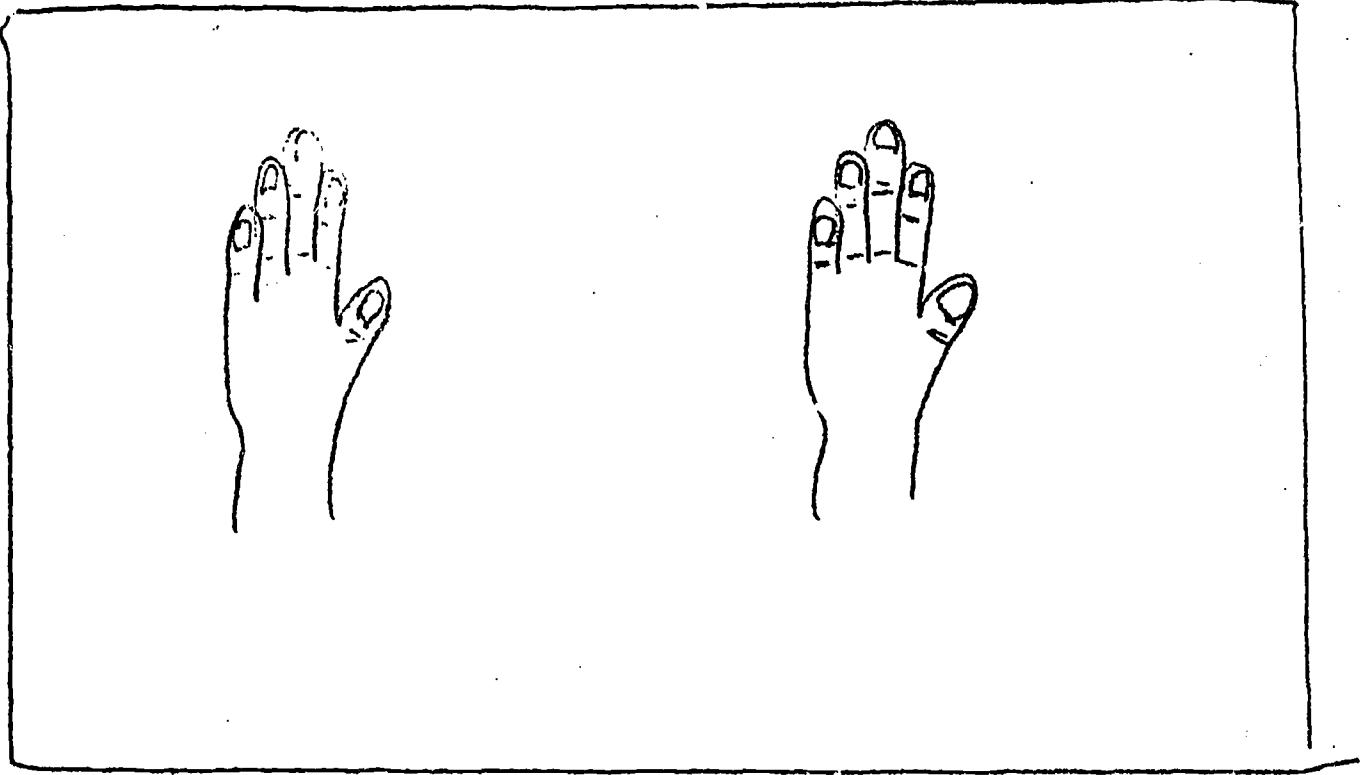


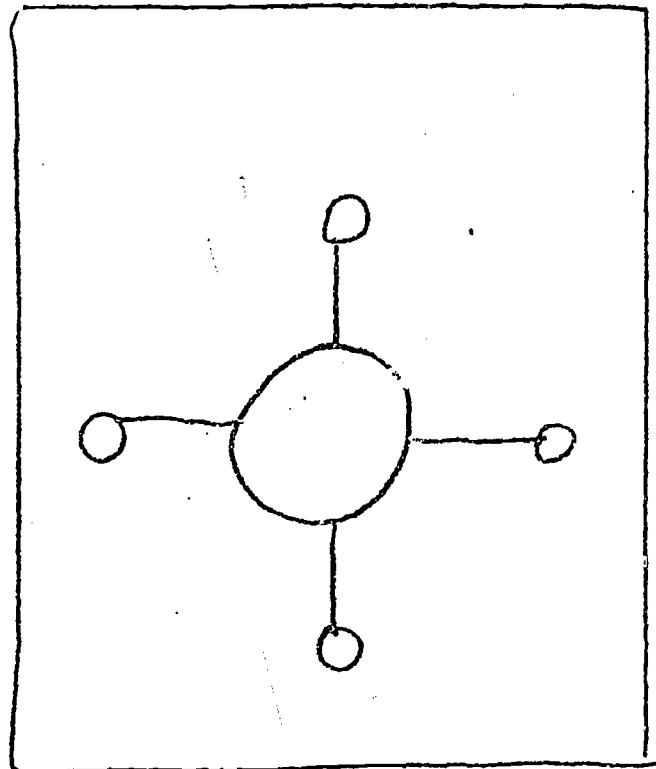
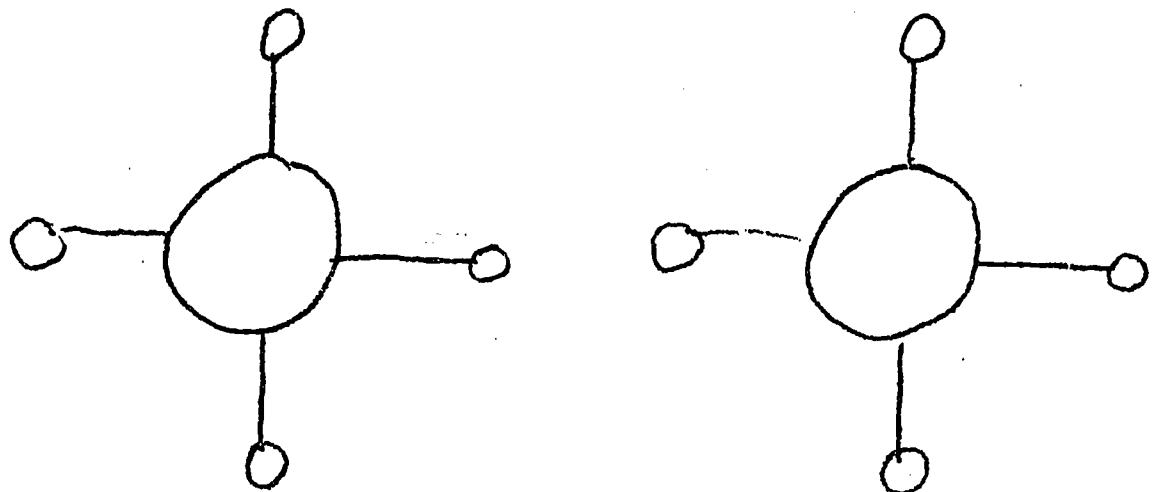


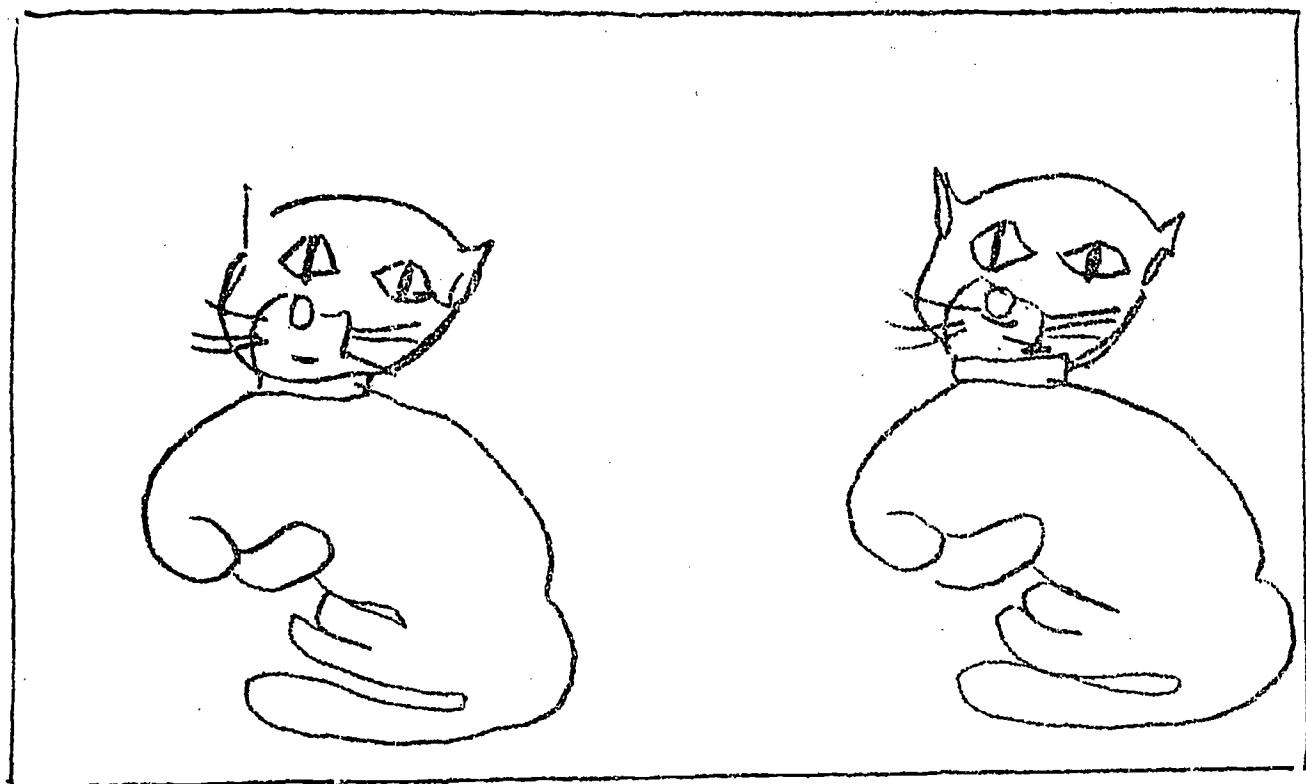


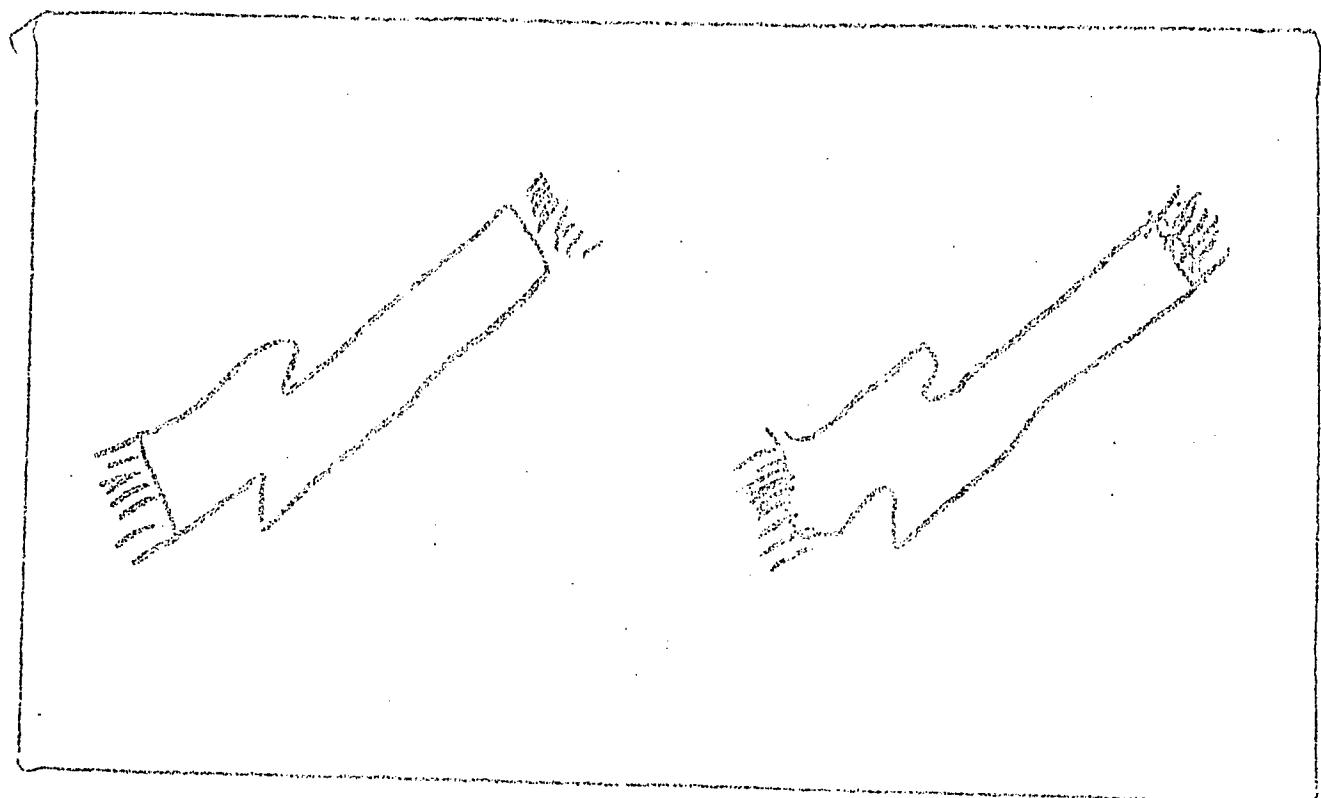
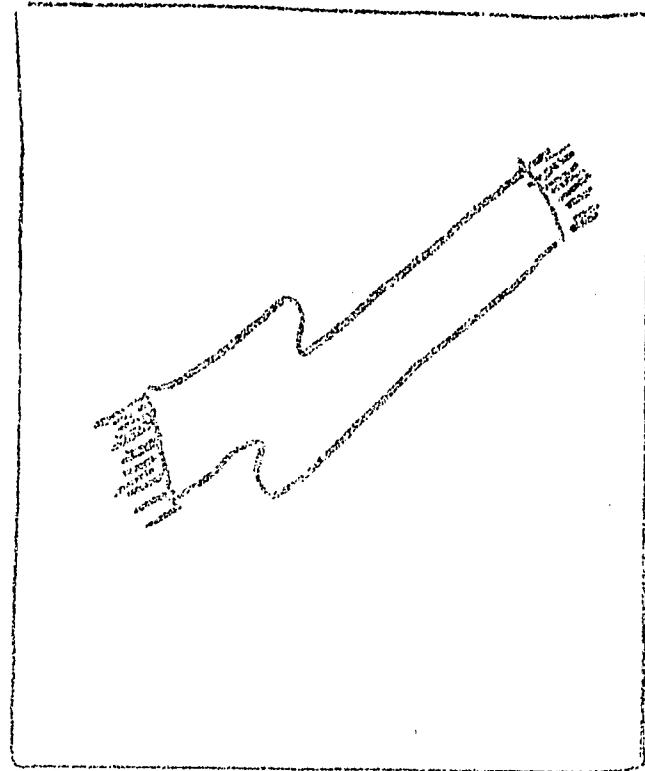
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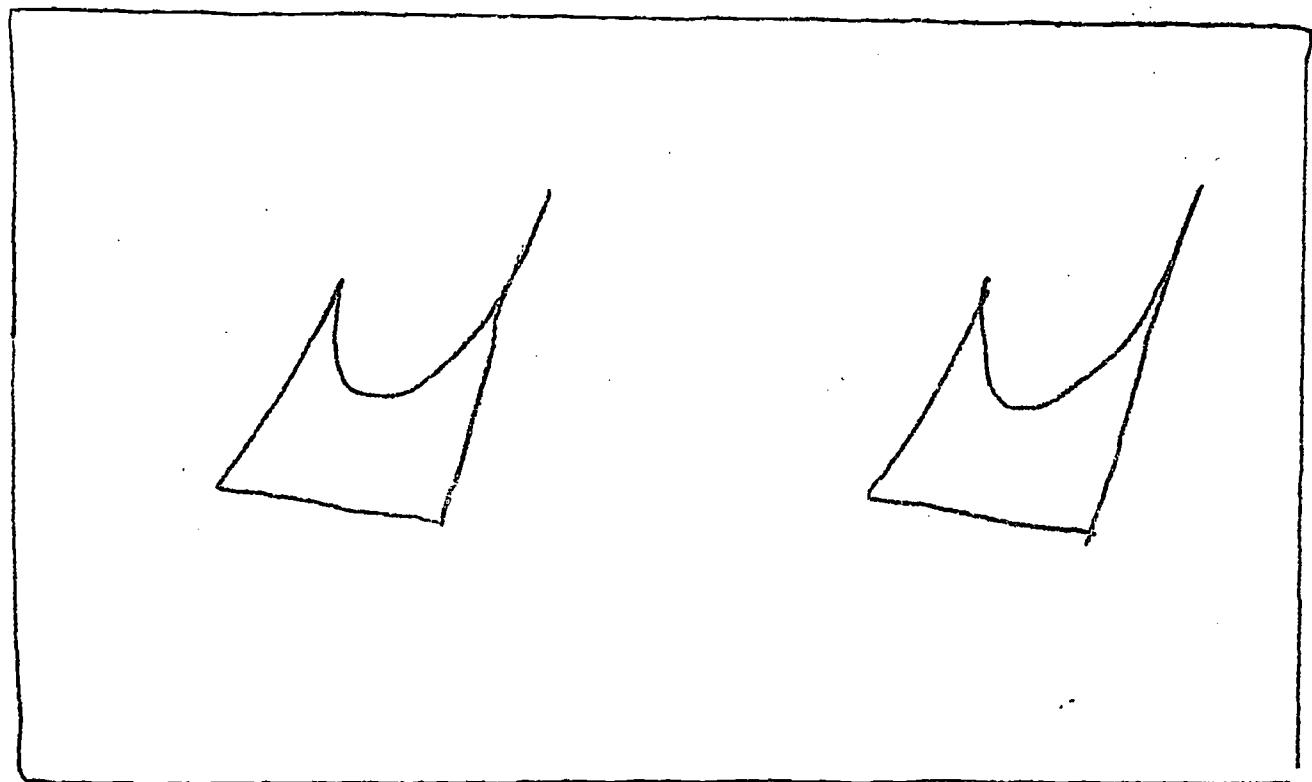
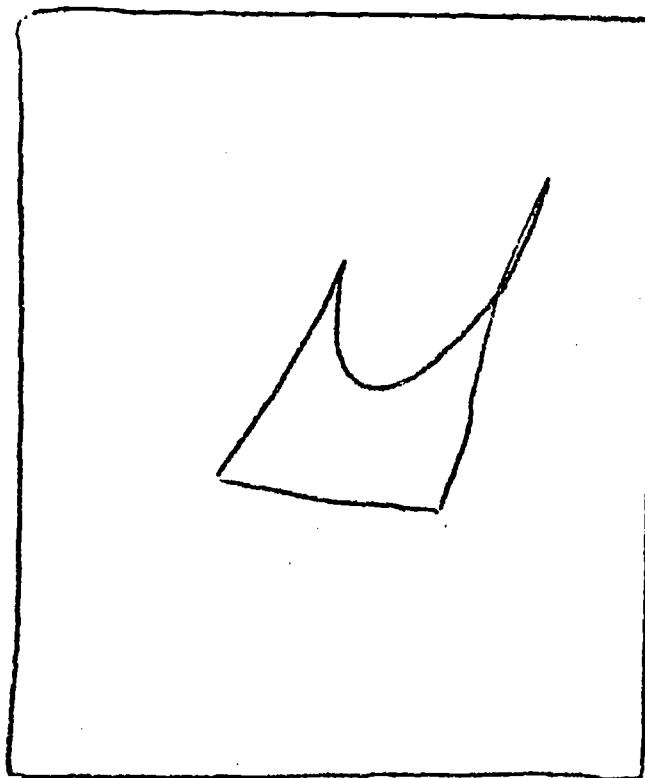


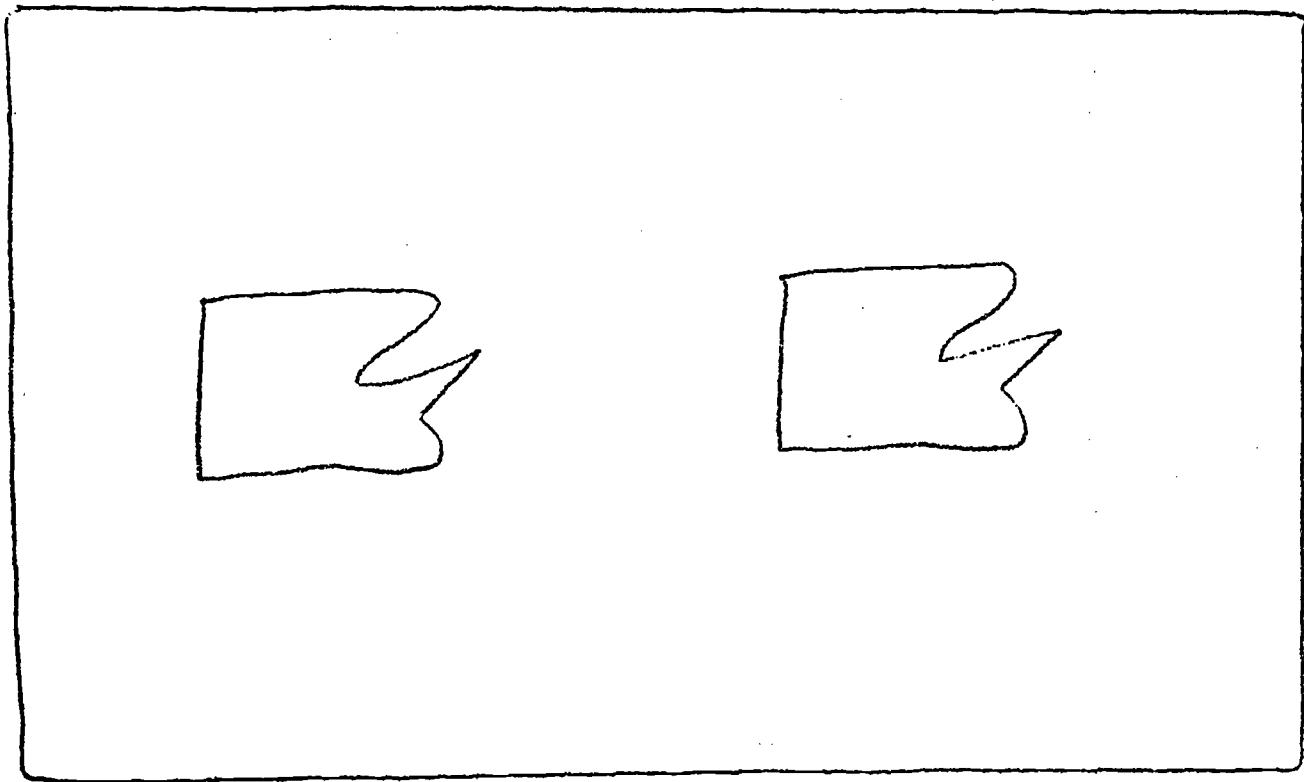
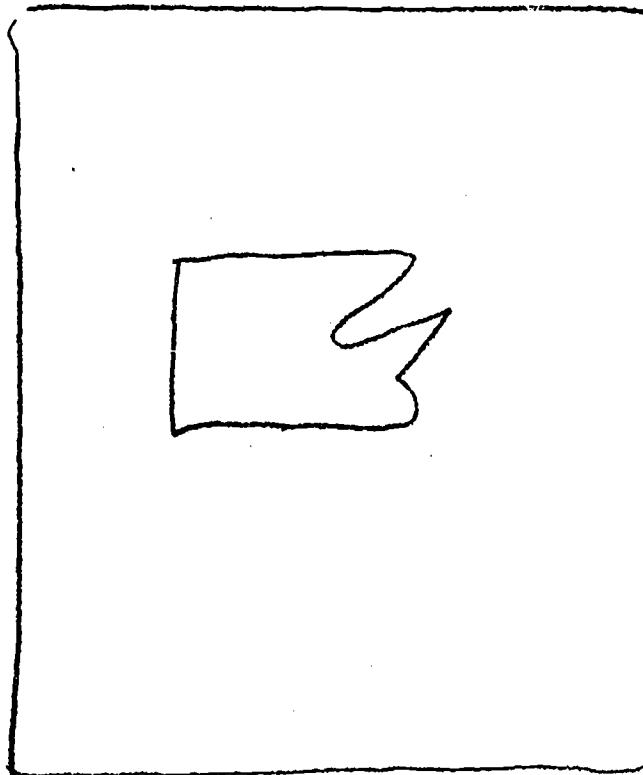




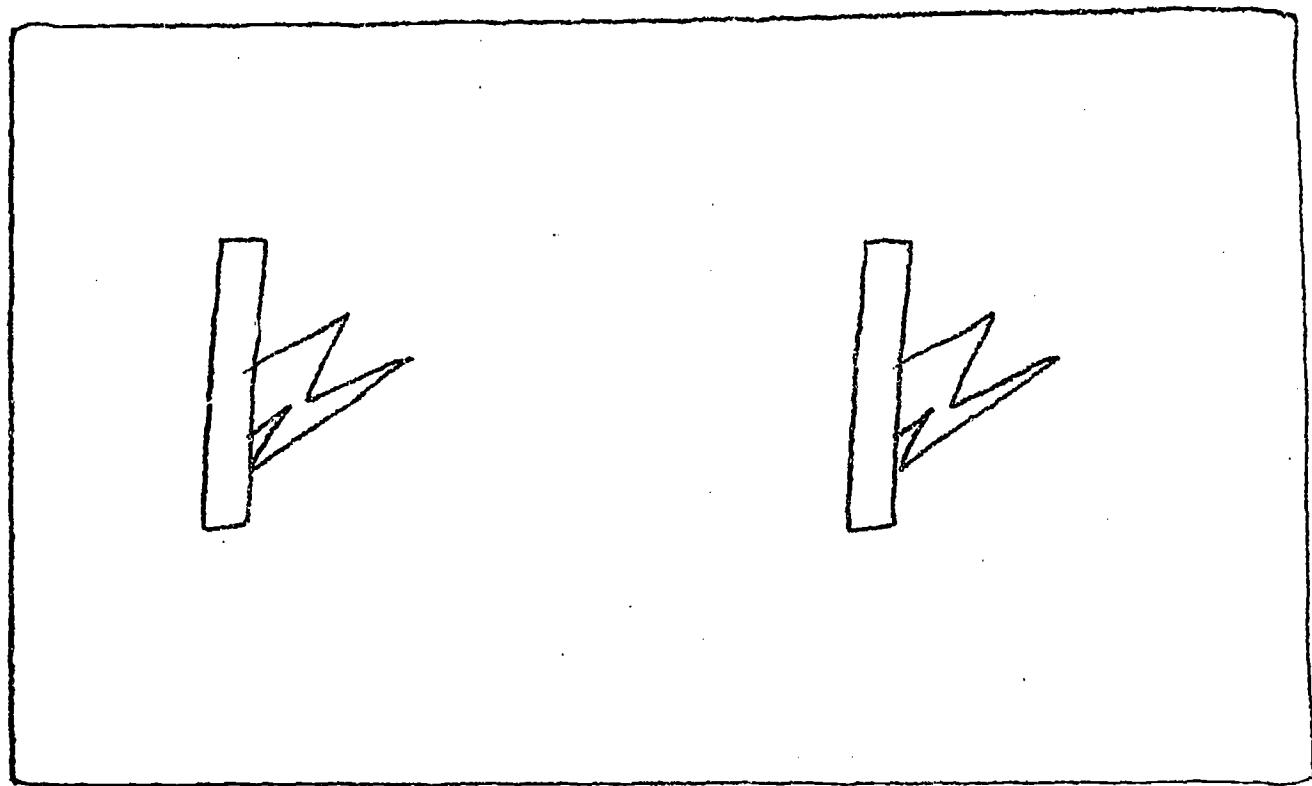
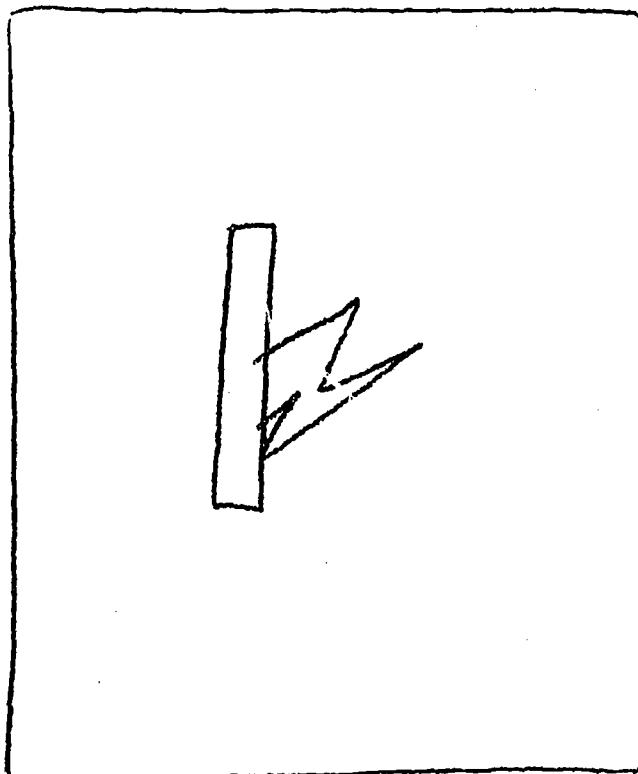




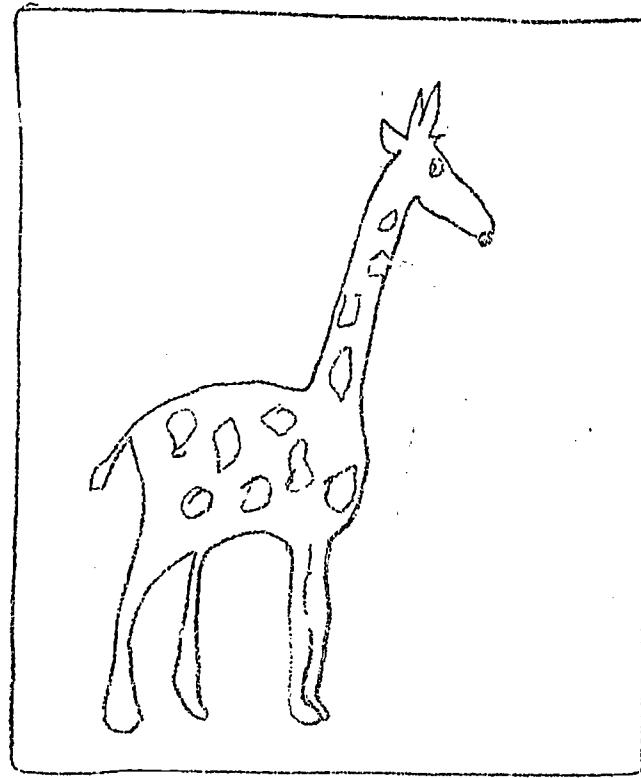
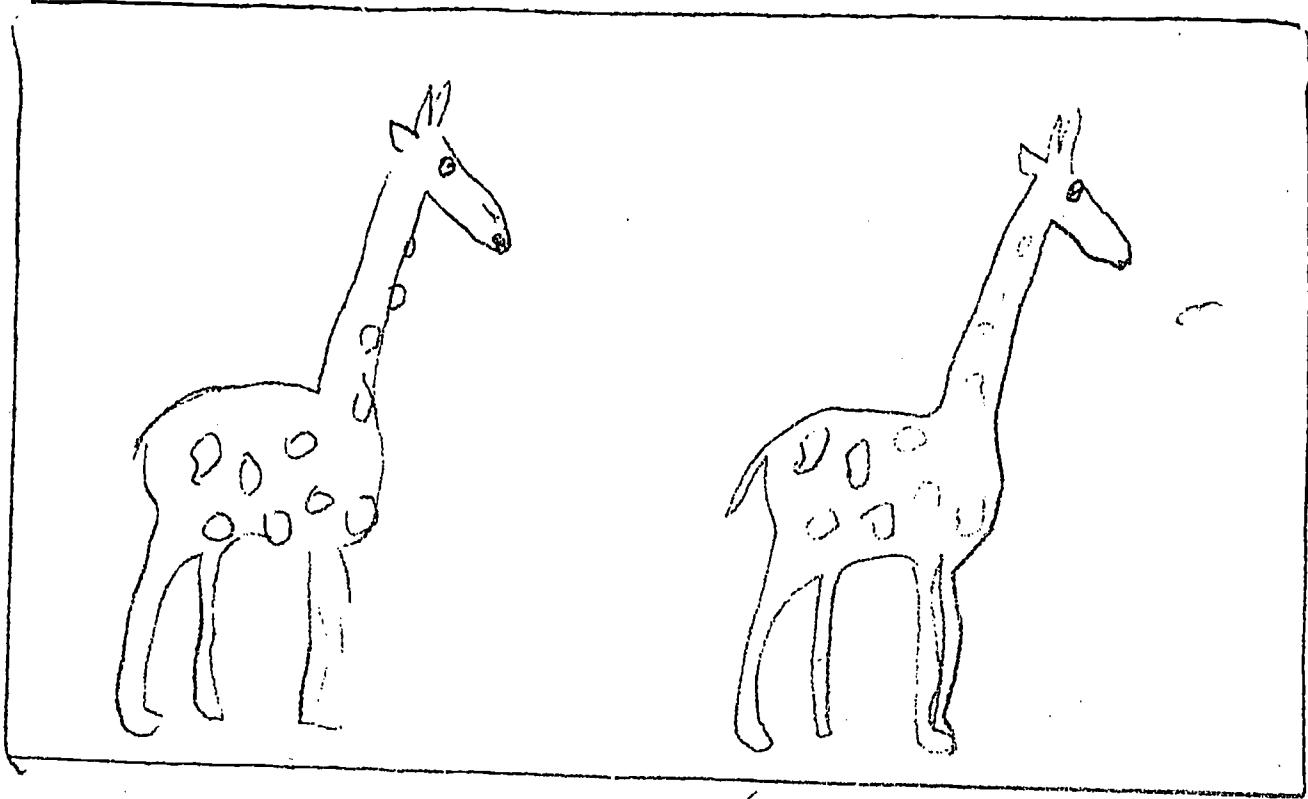




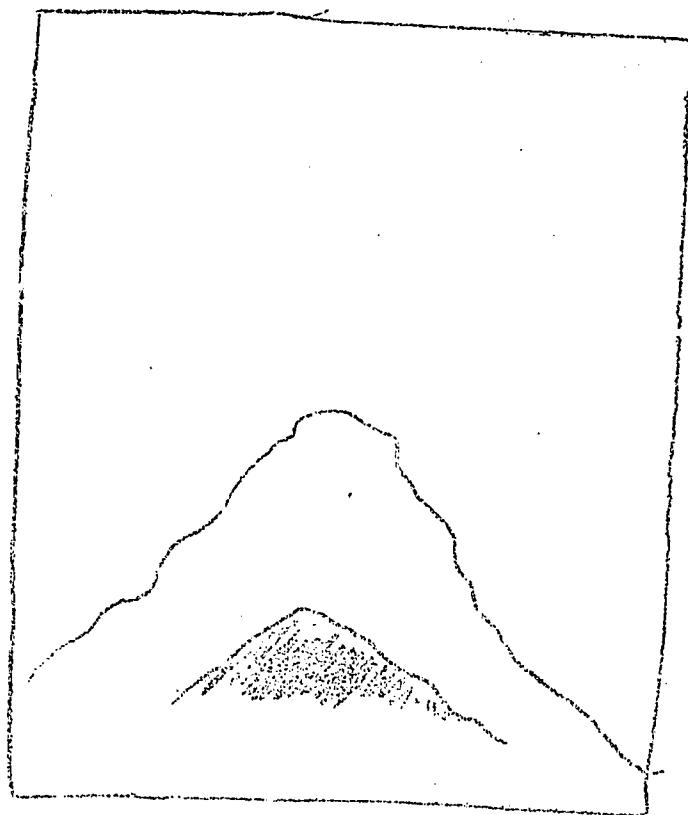
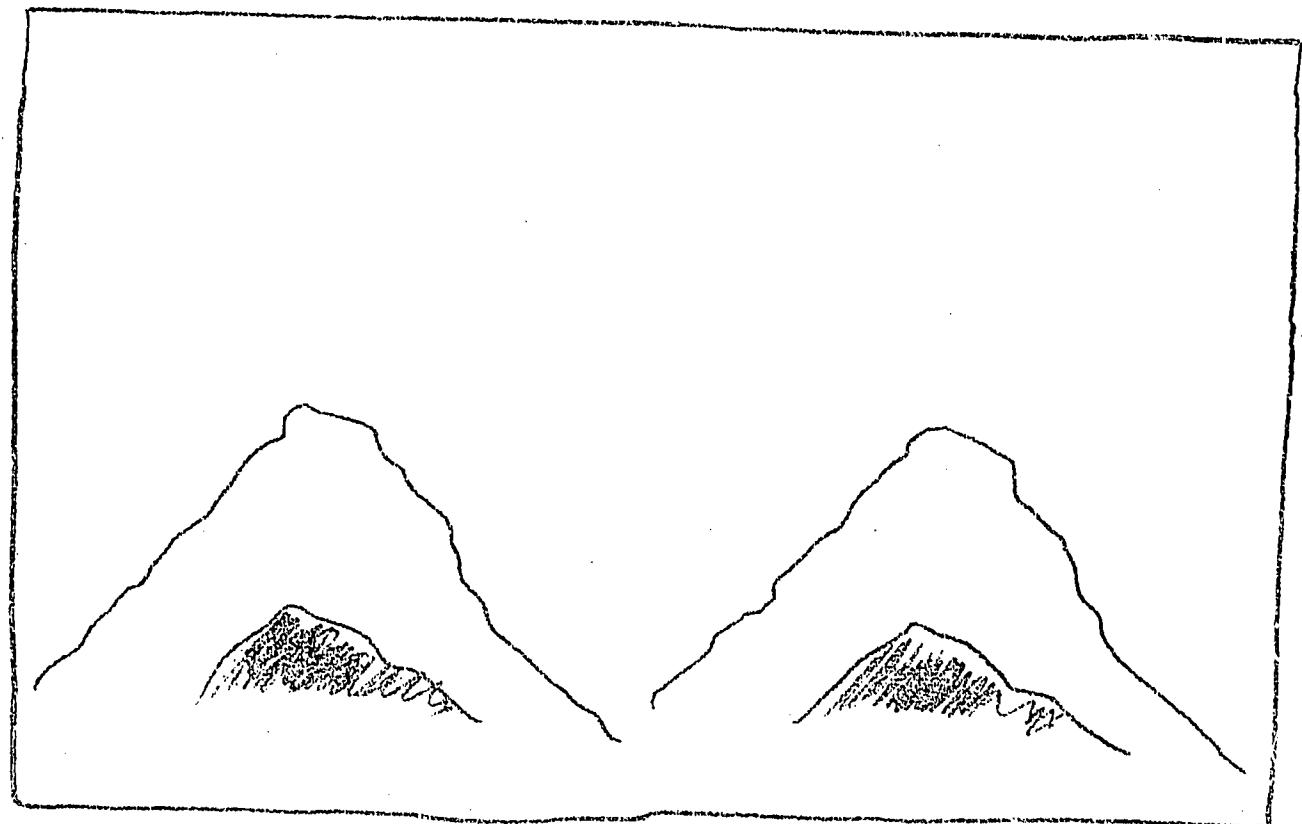
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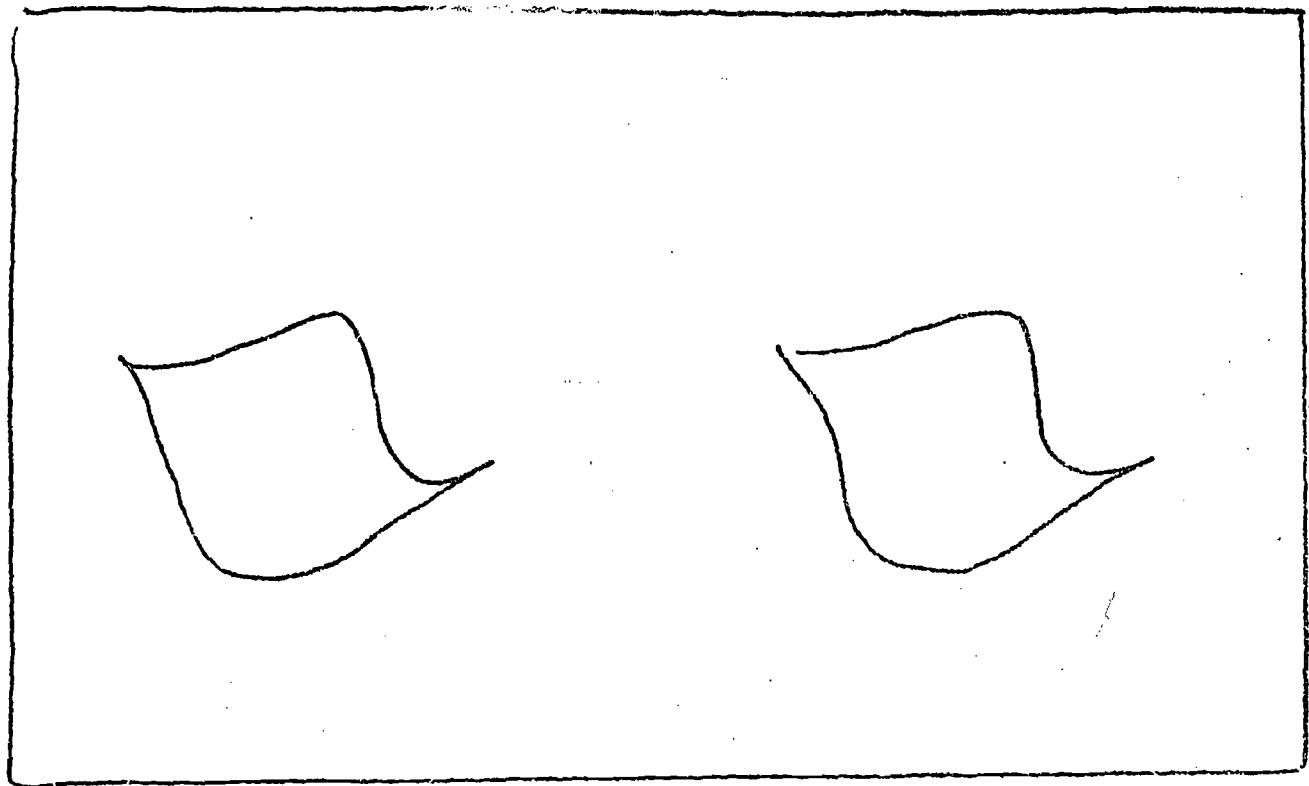
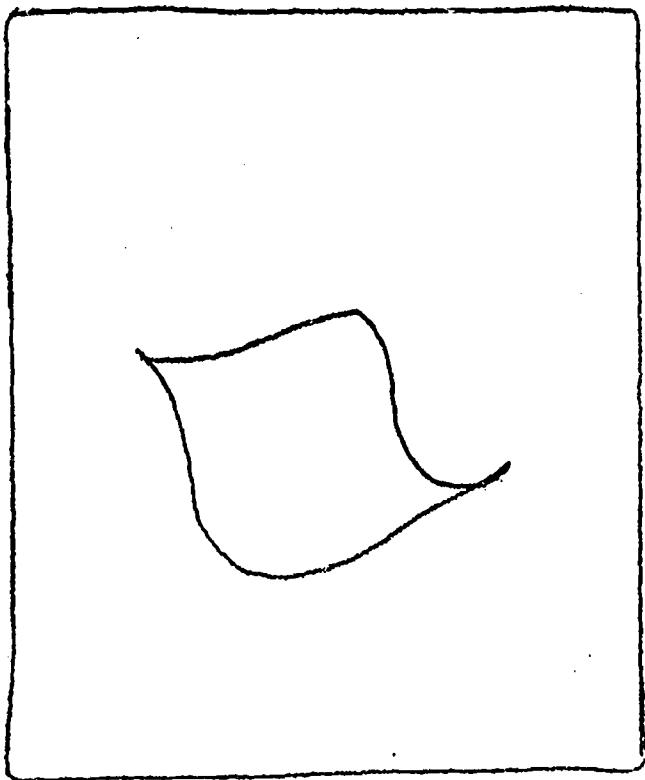
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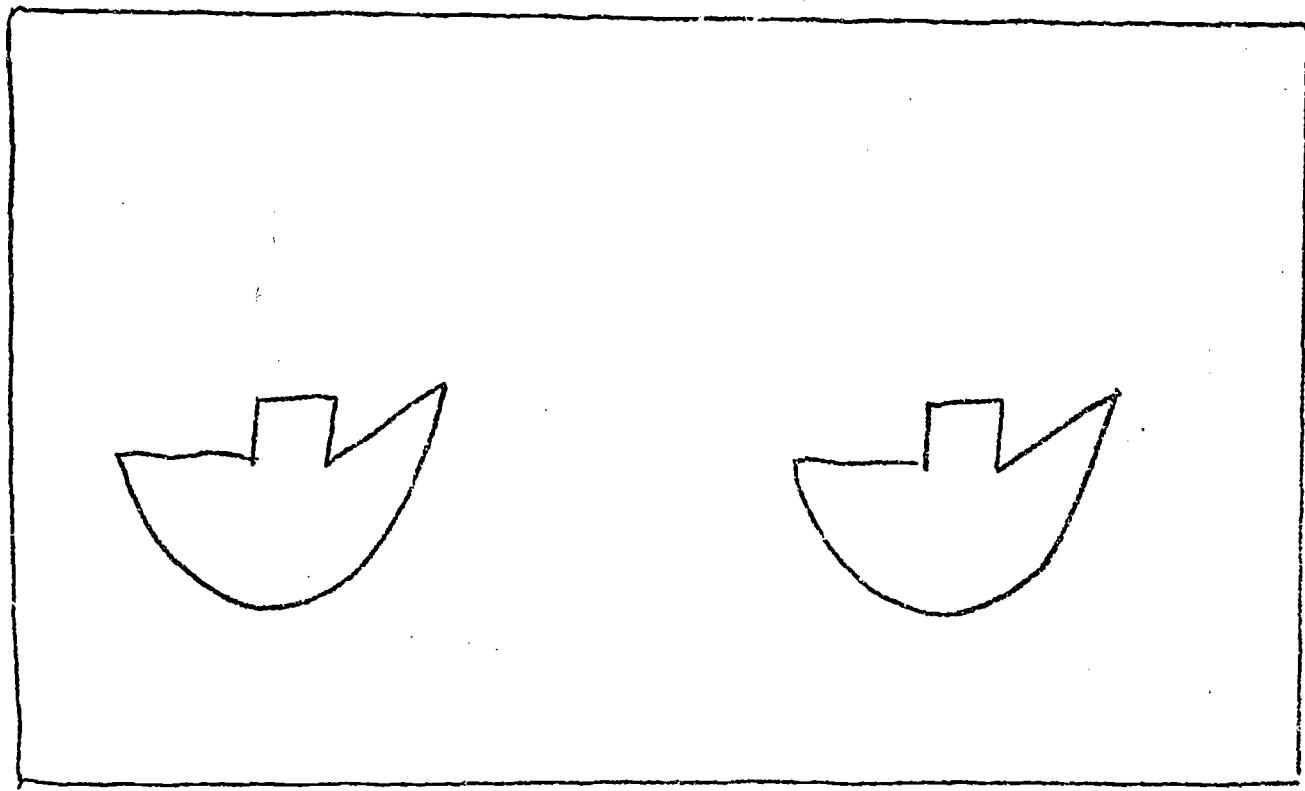
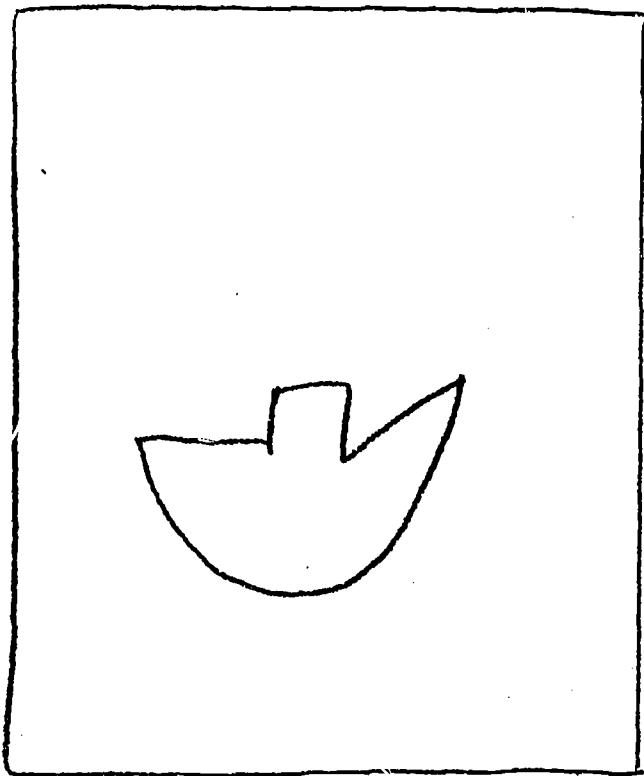


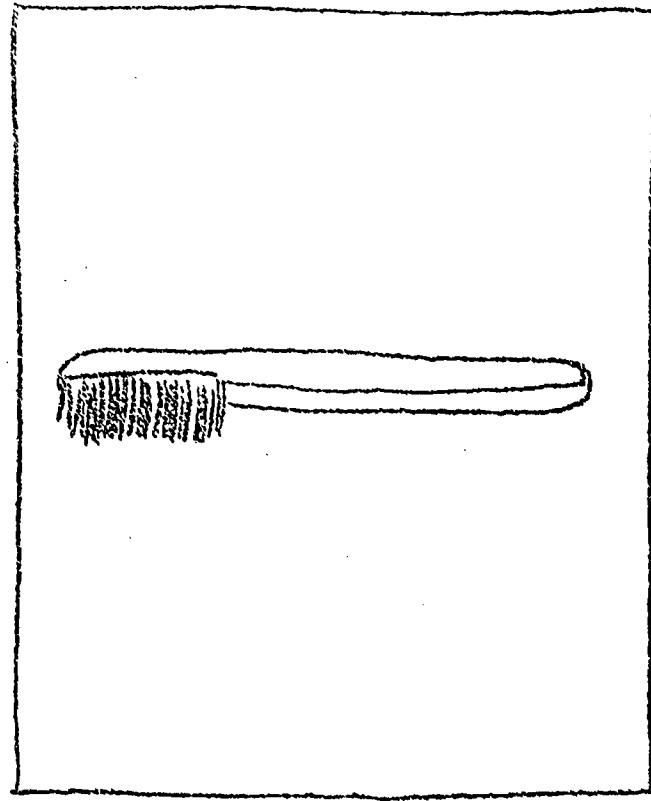
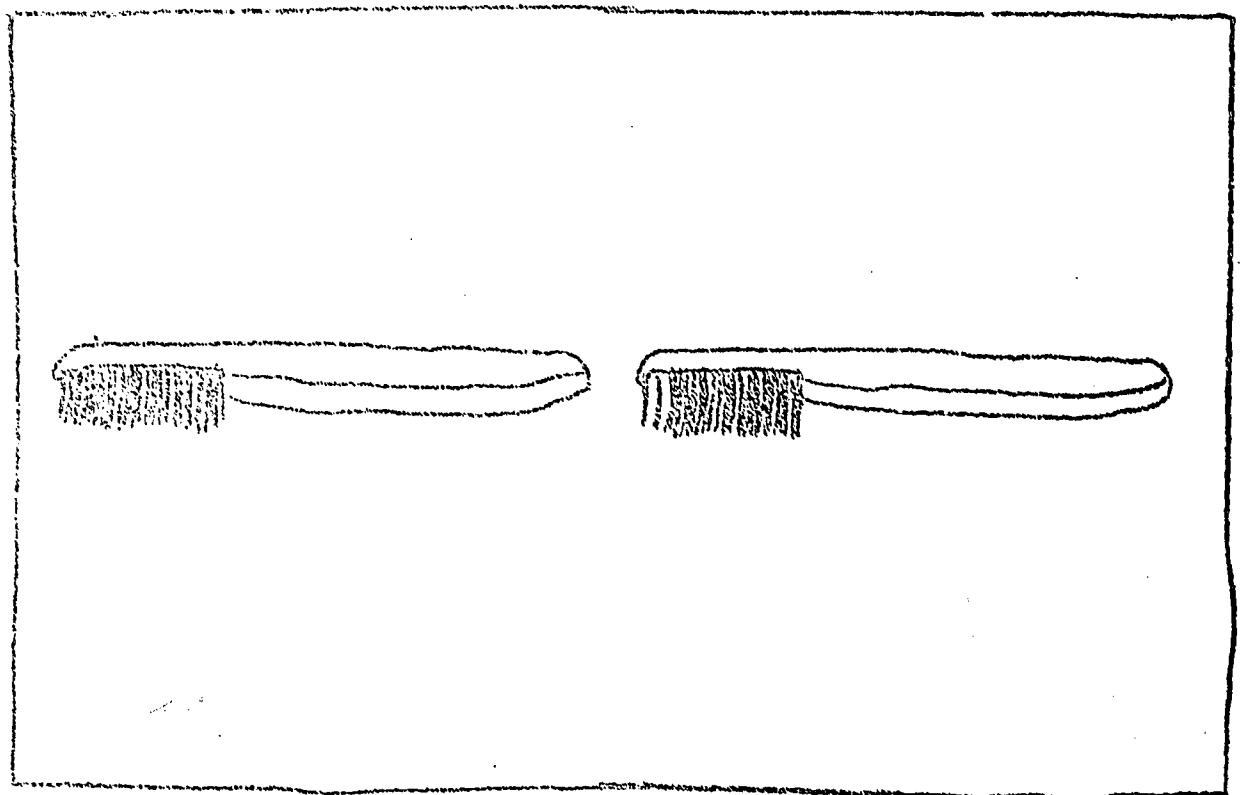
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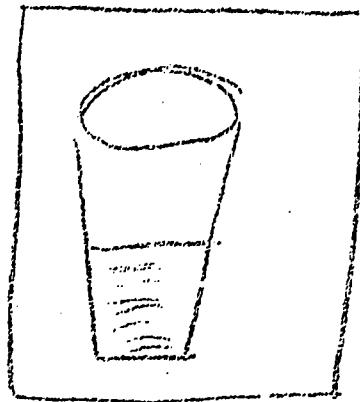
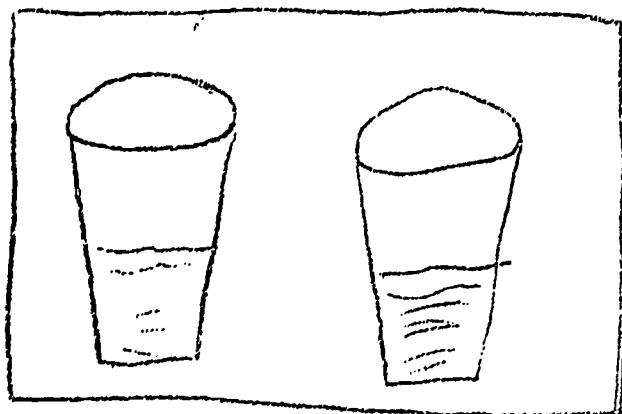




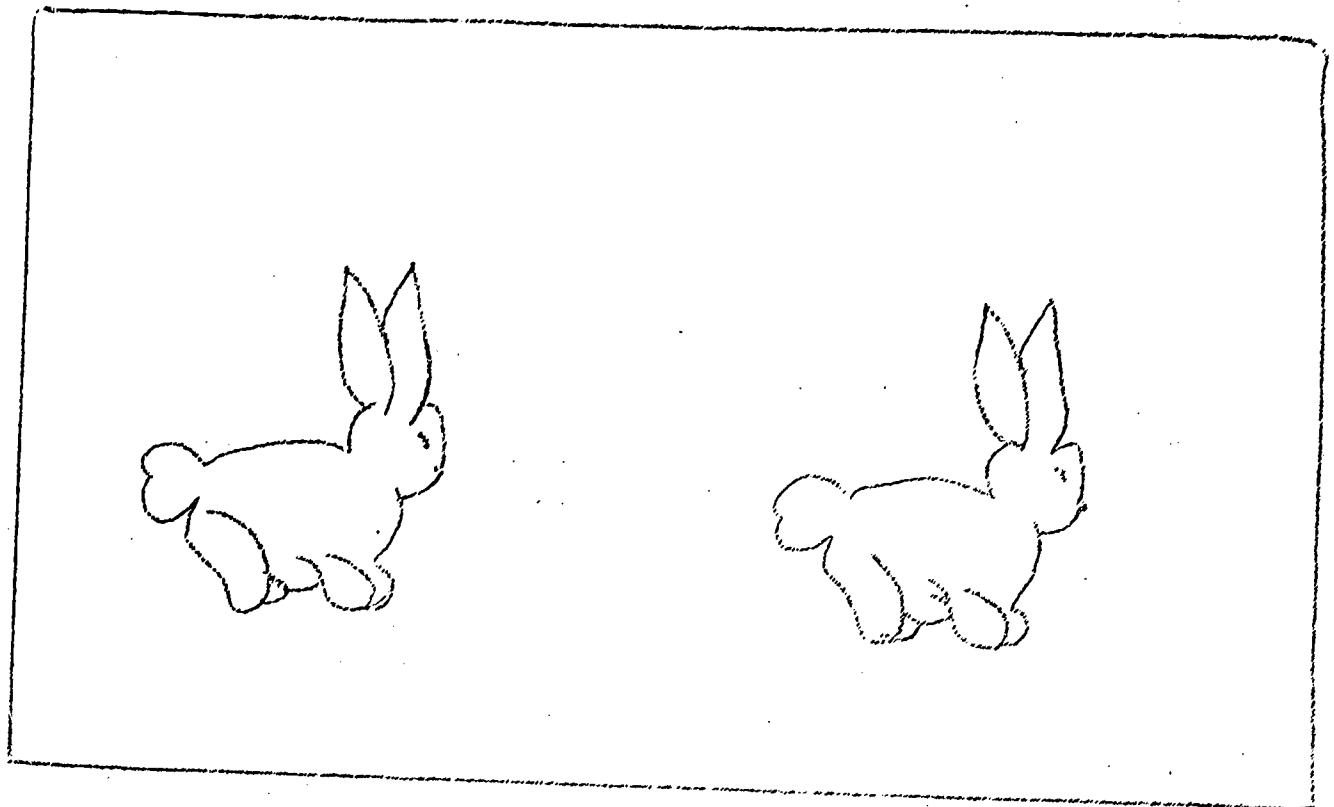
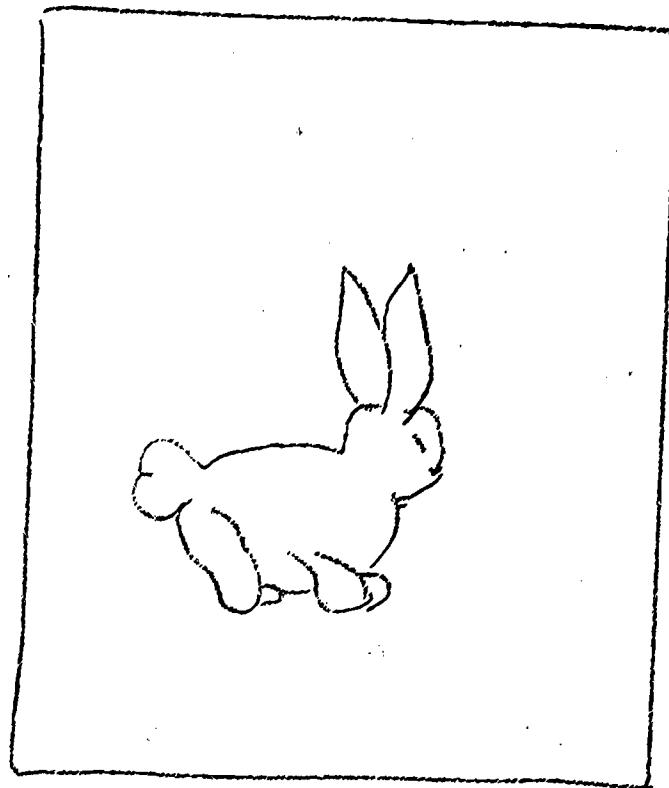


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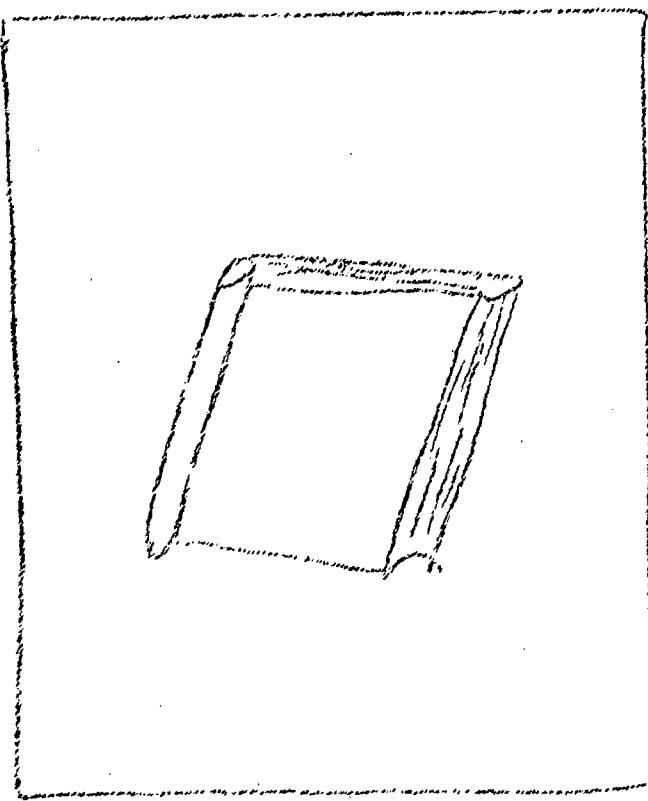
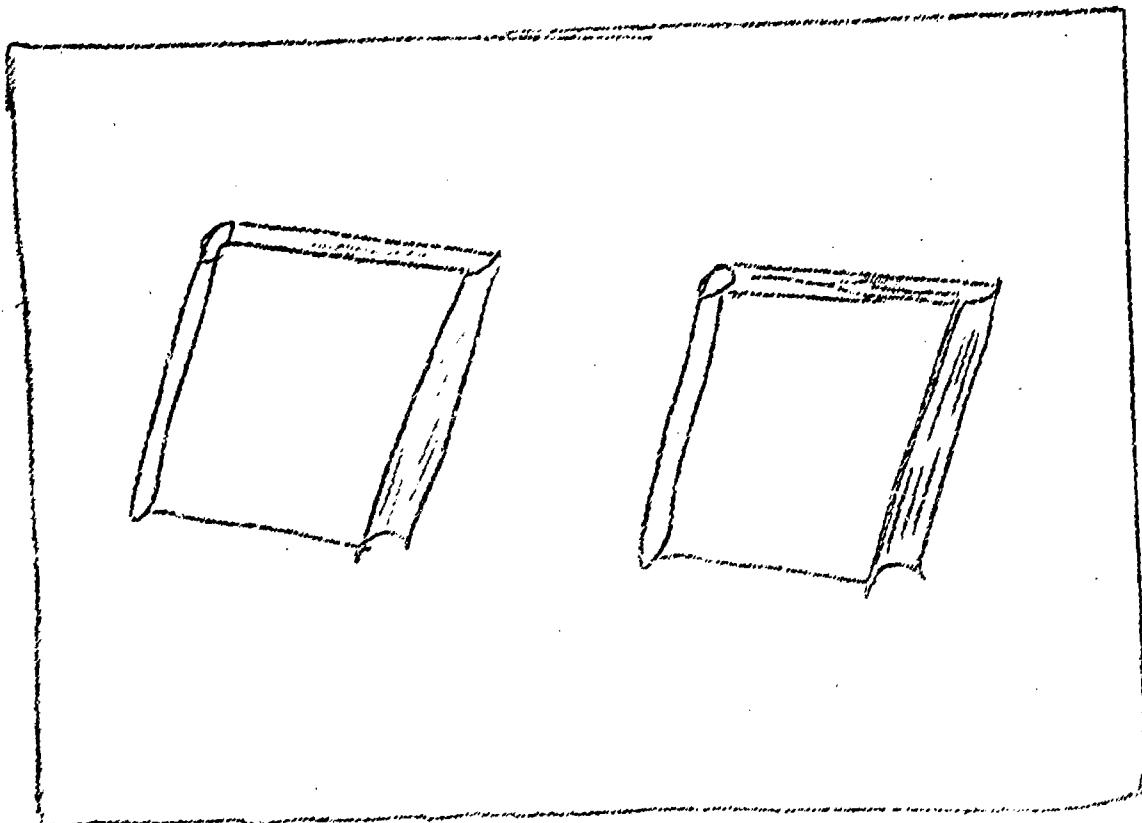
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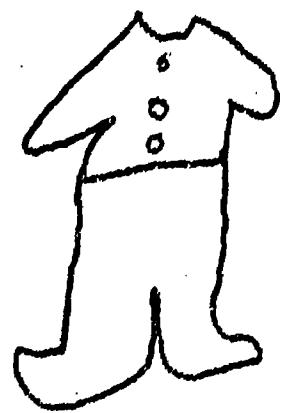
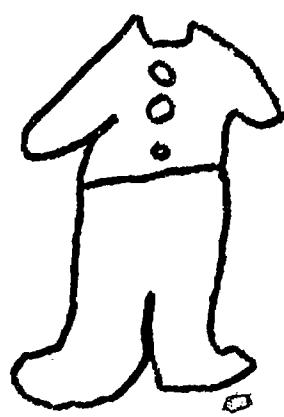
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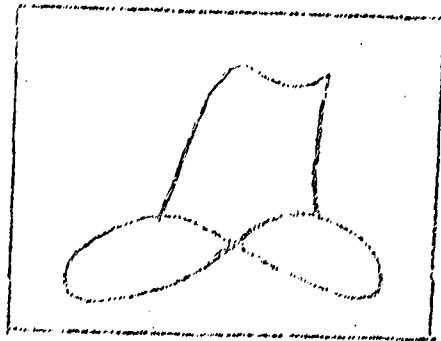
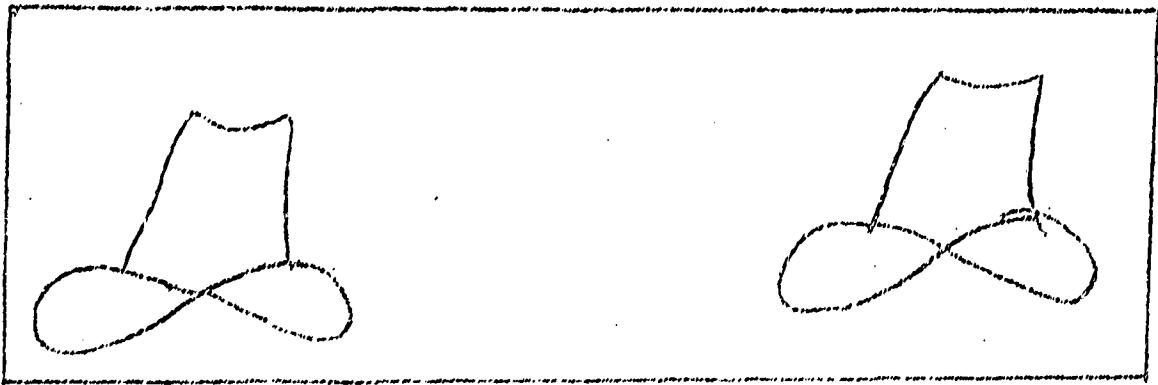
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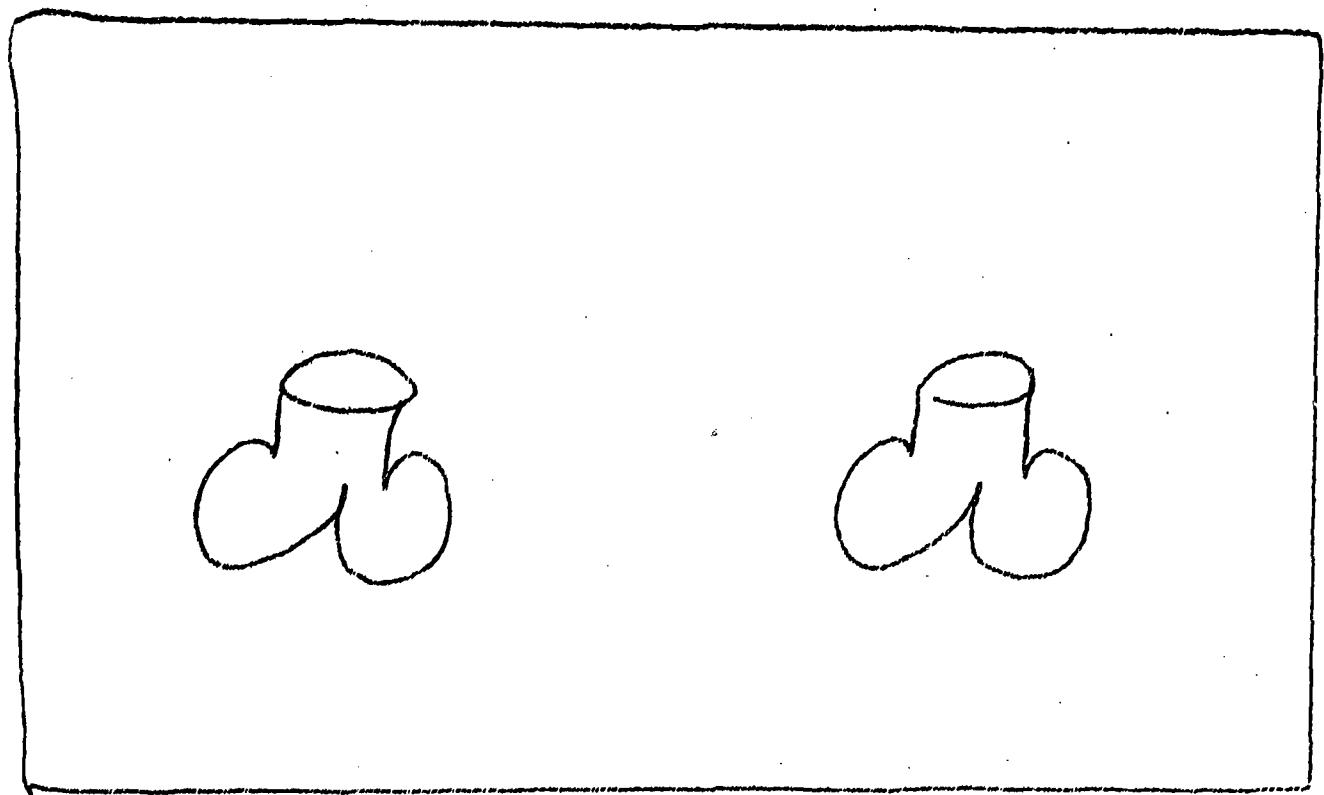
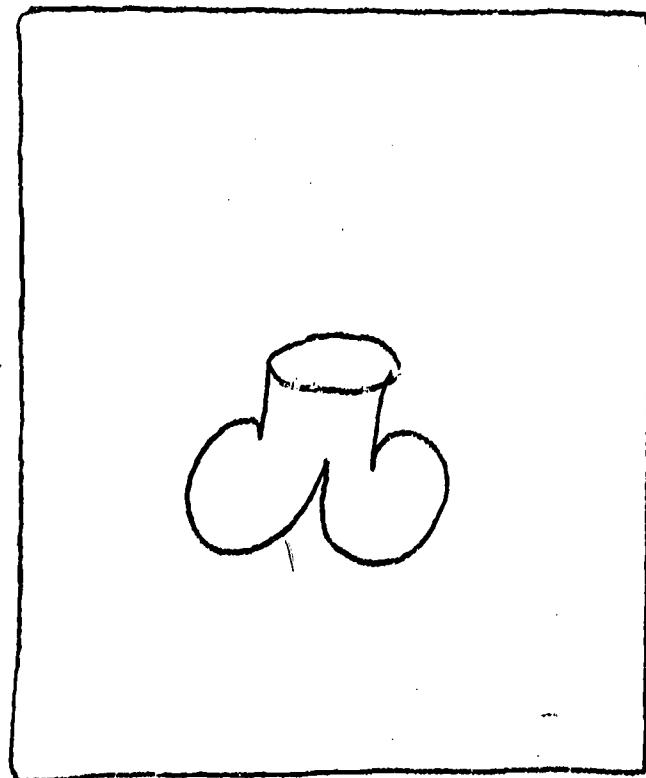


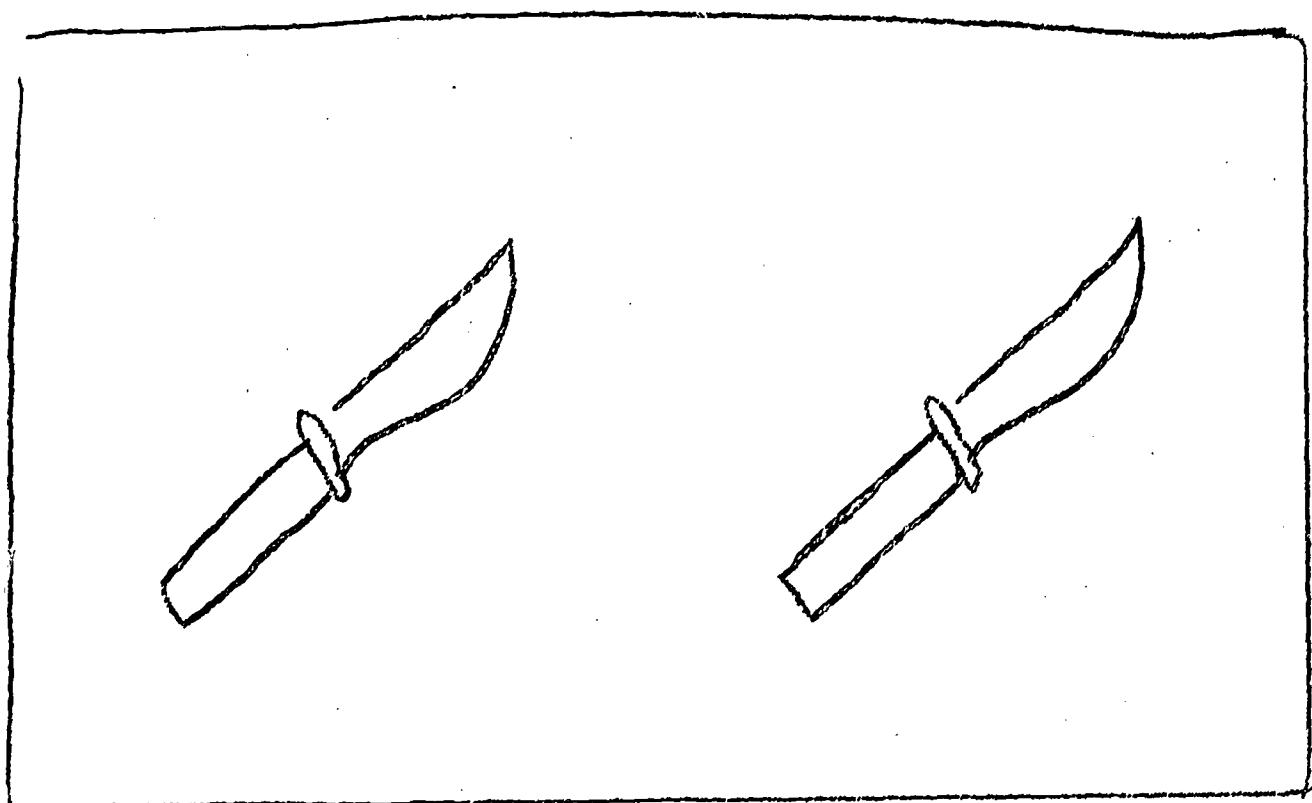
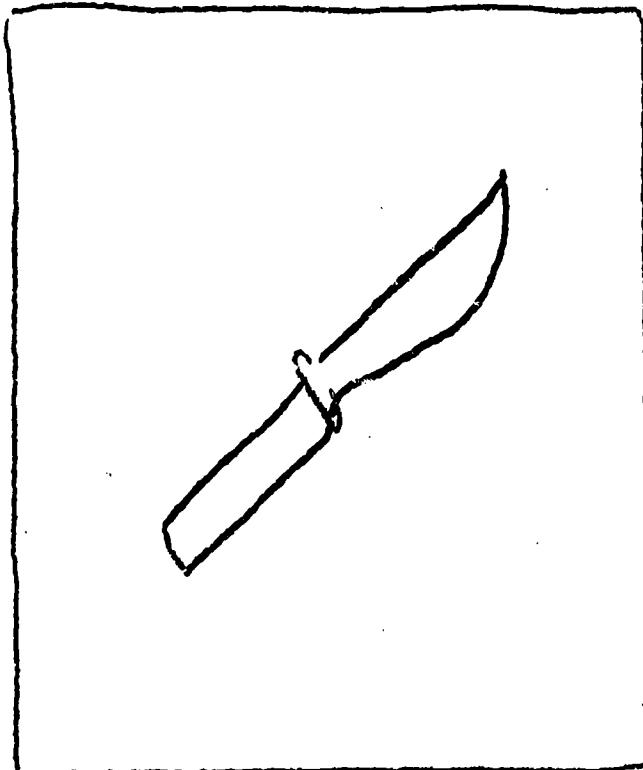
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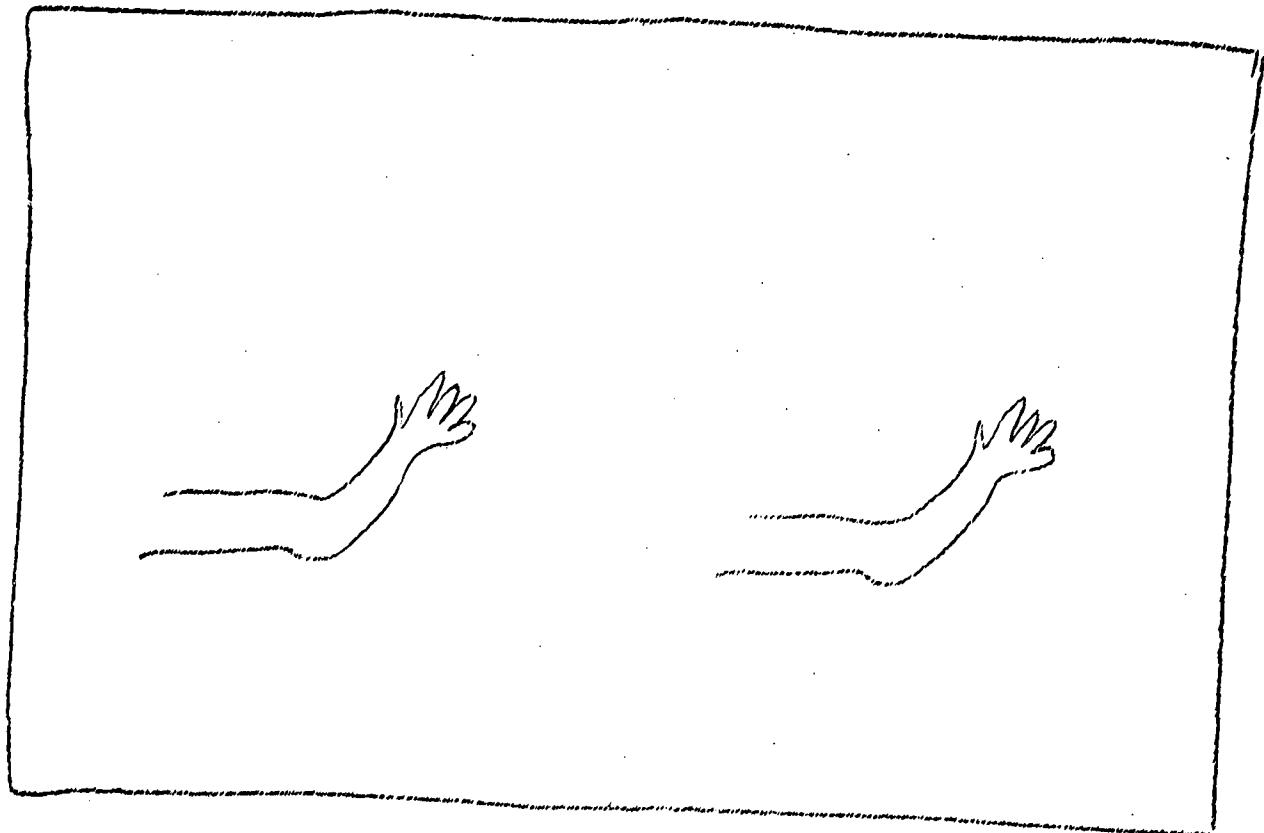
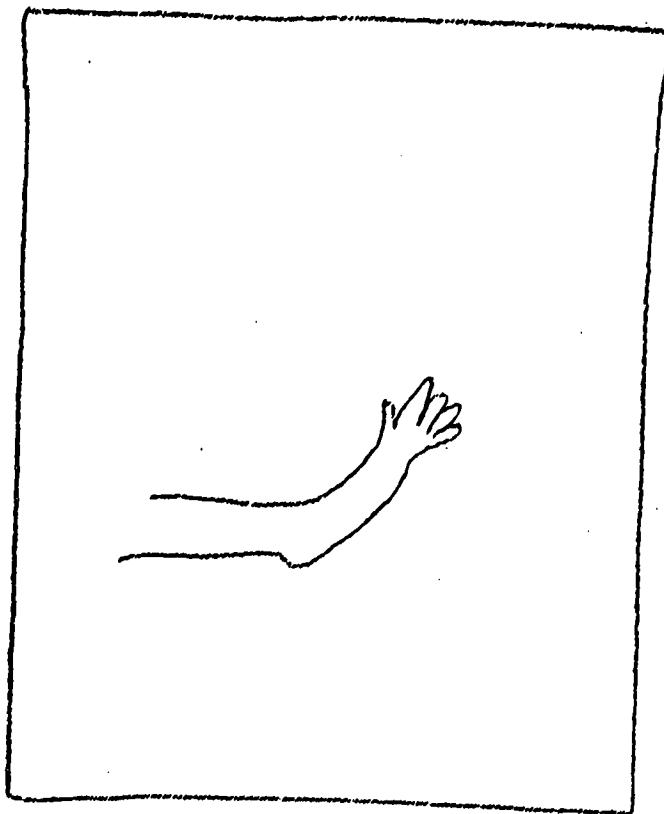
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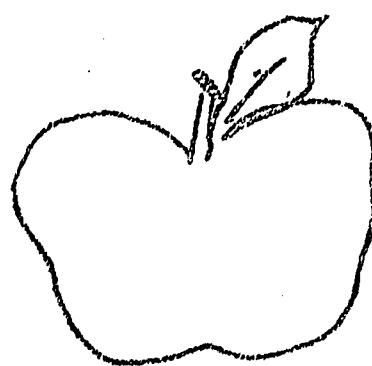
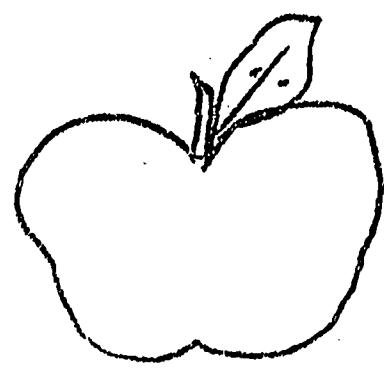
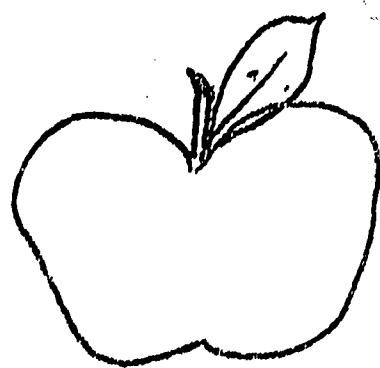




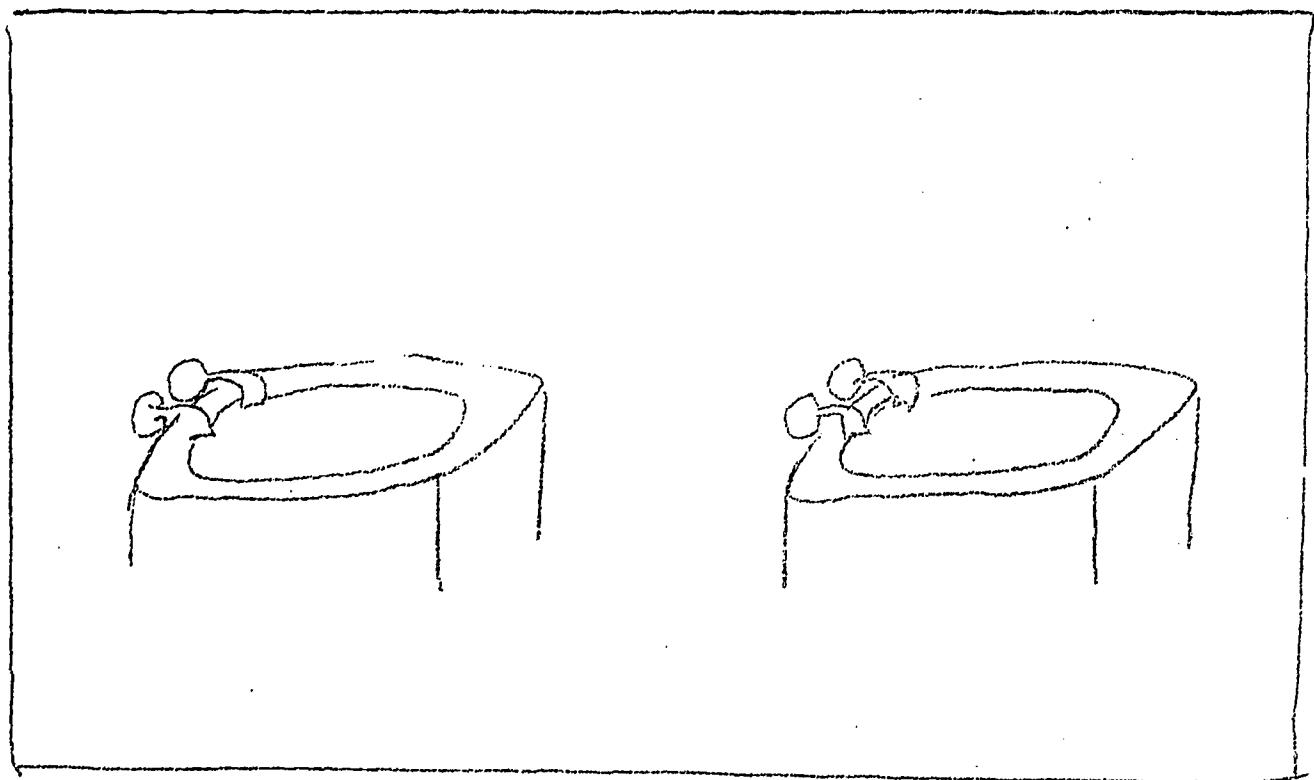
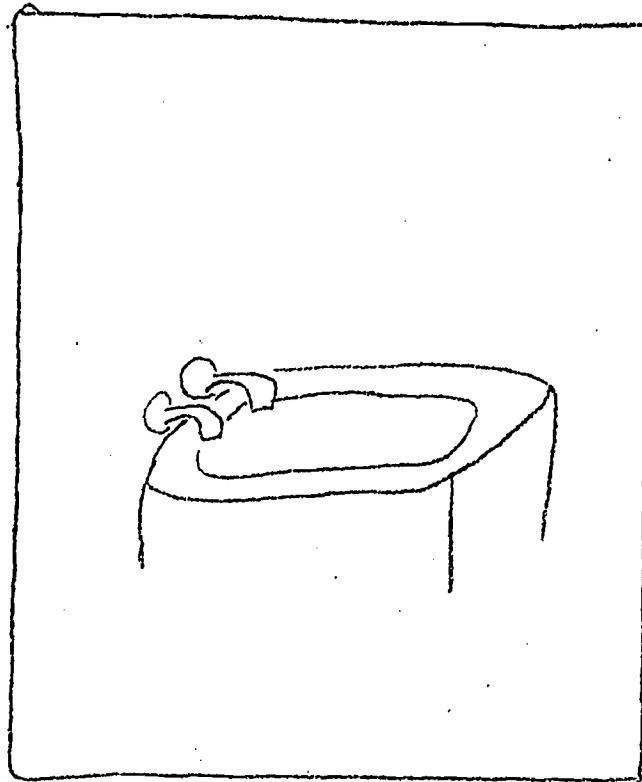
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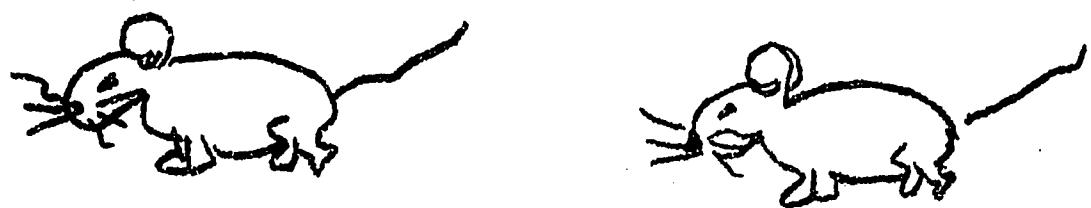


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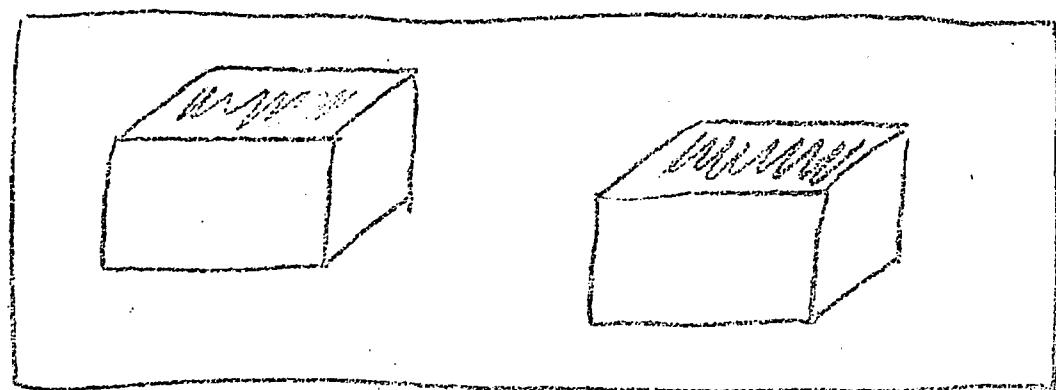
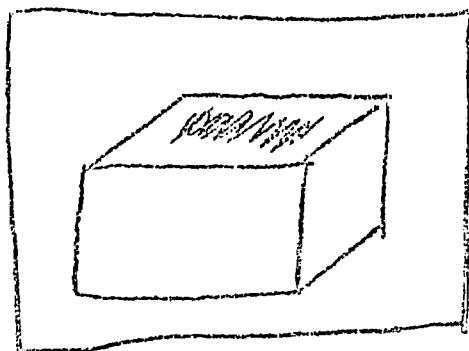


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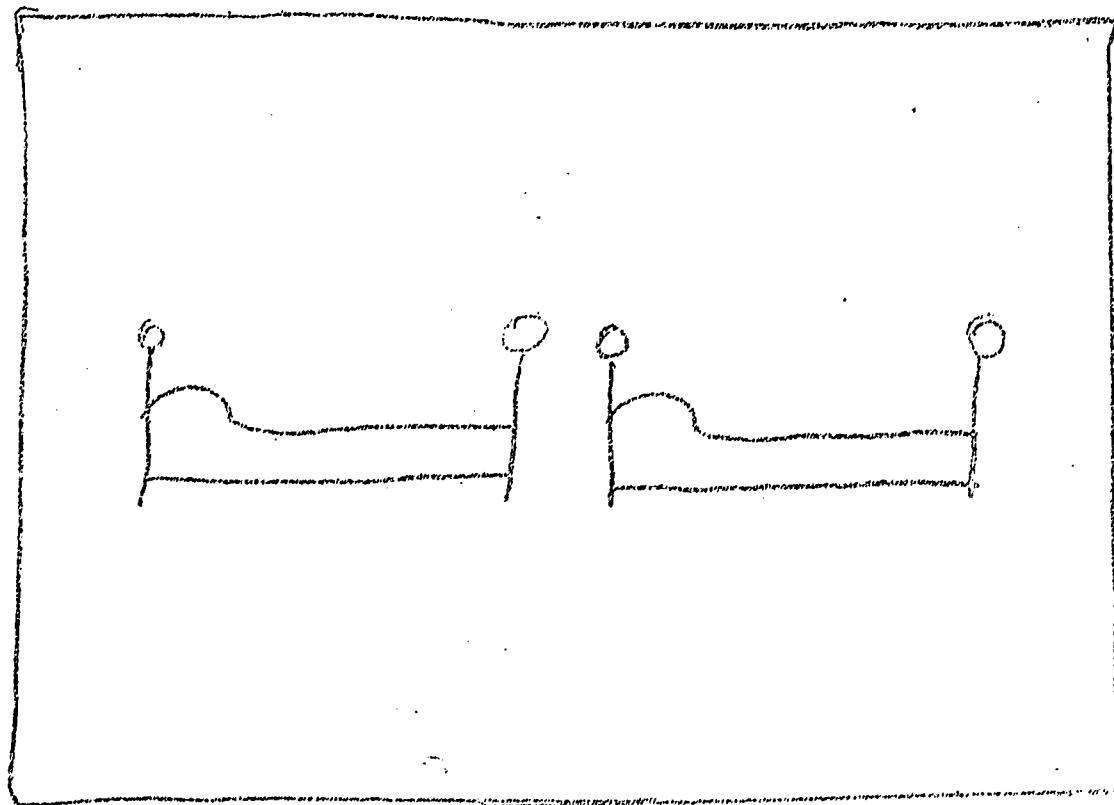
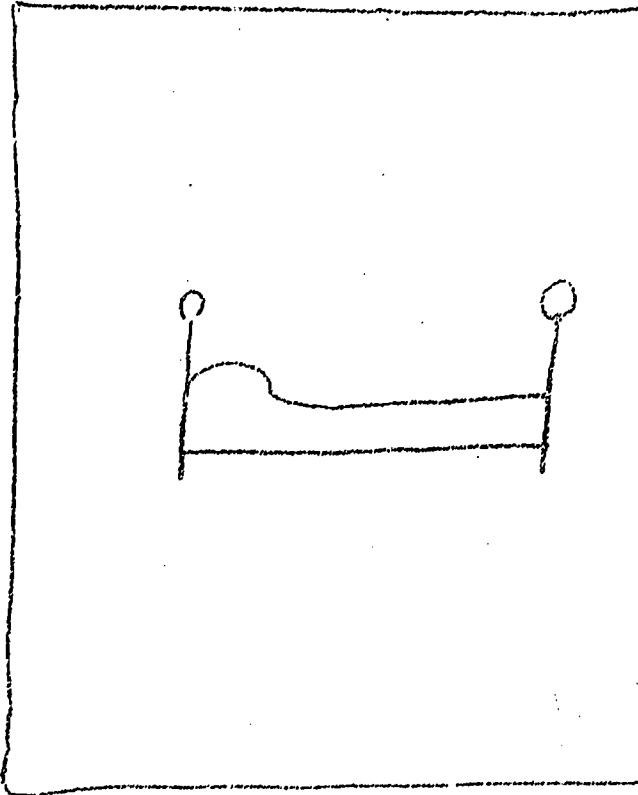


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OP
OR

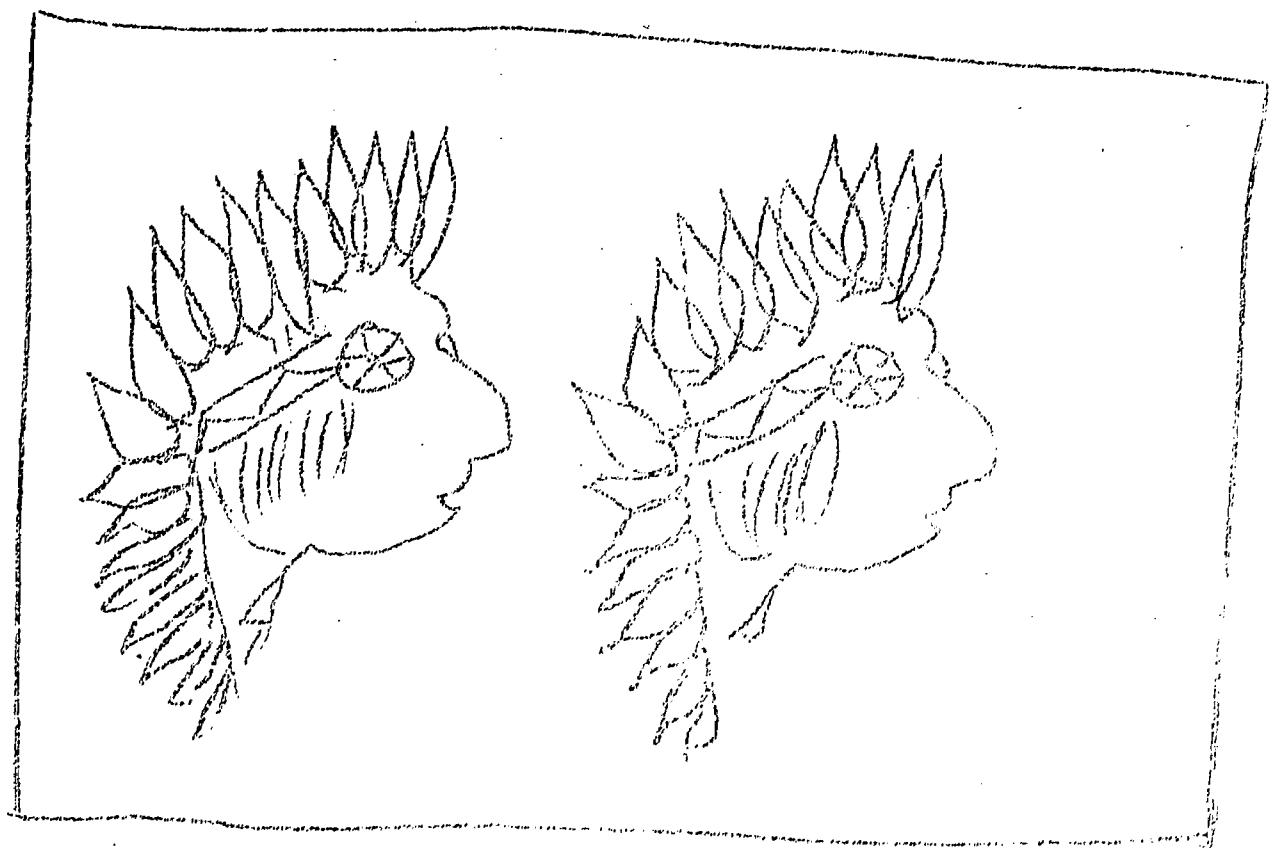


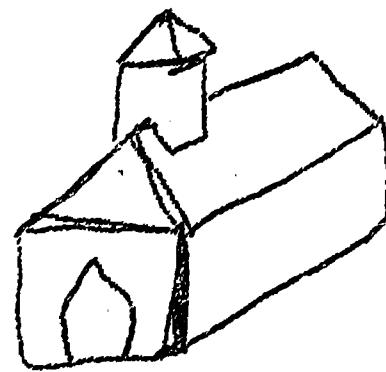
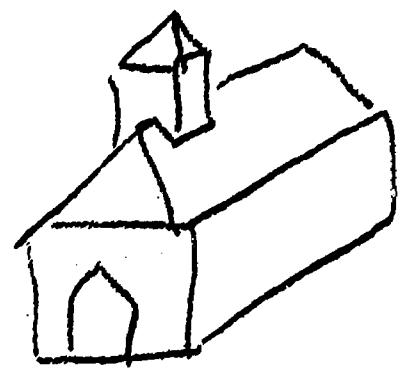
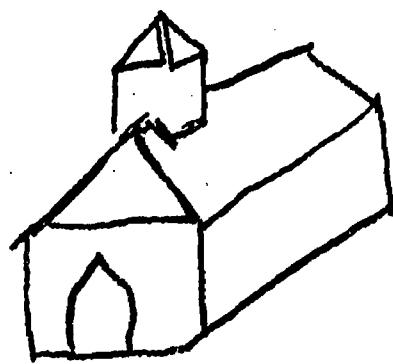
10
OP
OR

Test 3 - Recognition Task

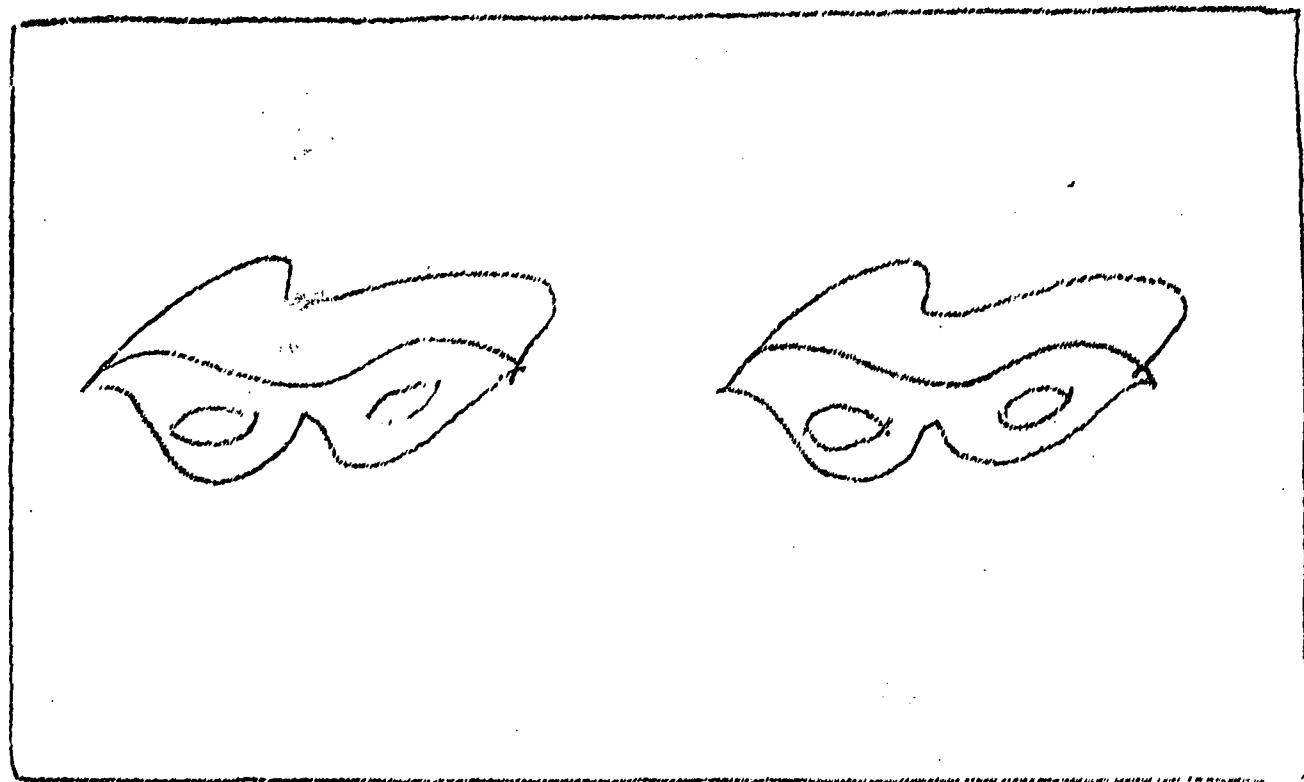
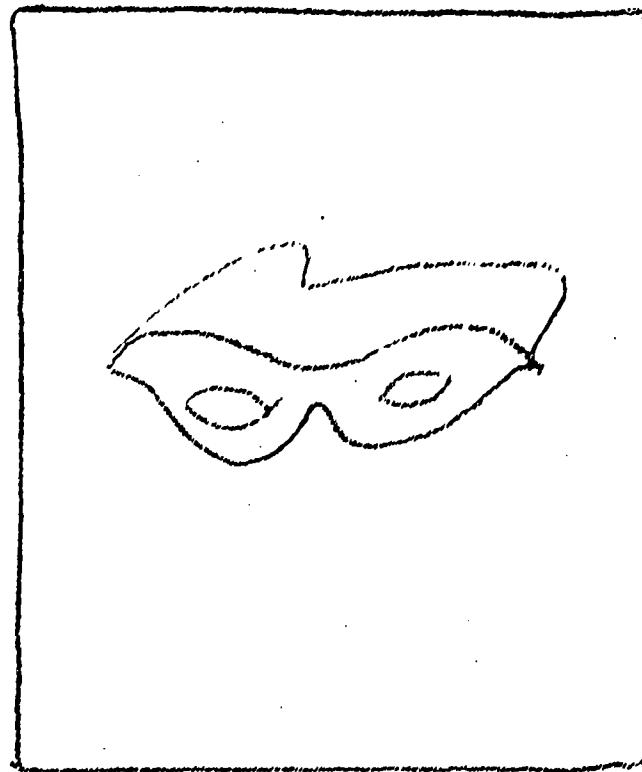


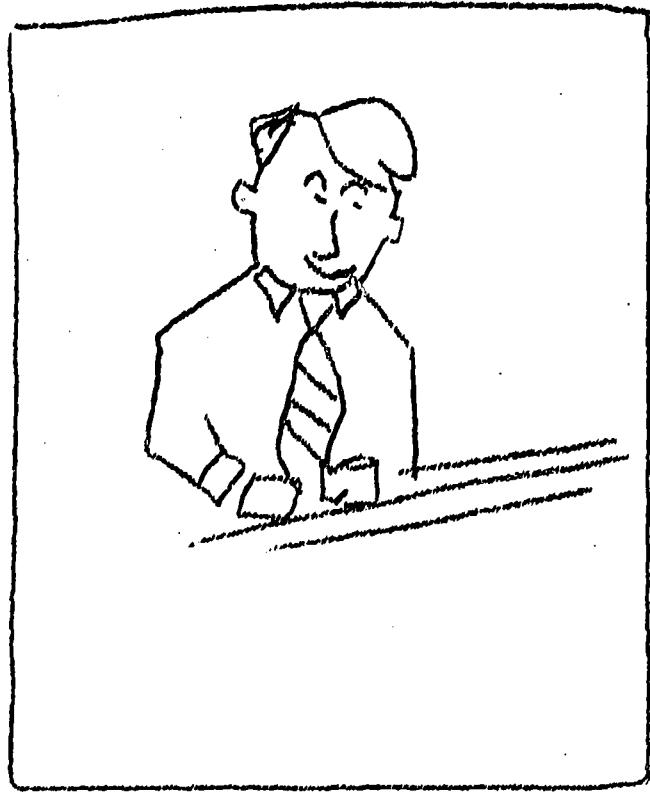
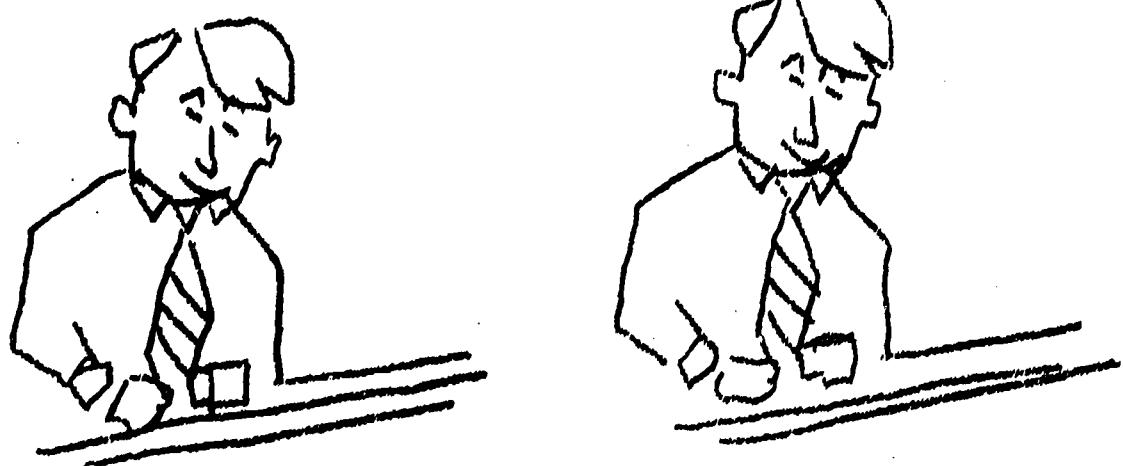
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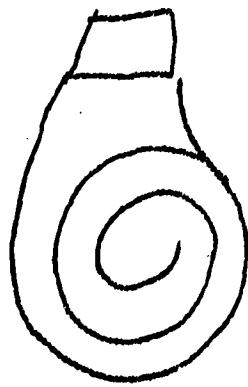
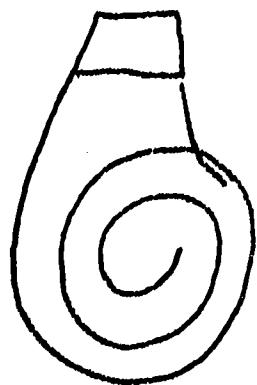
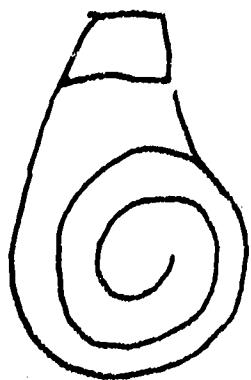


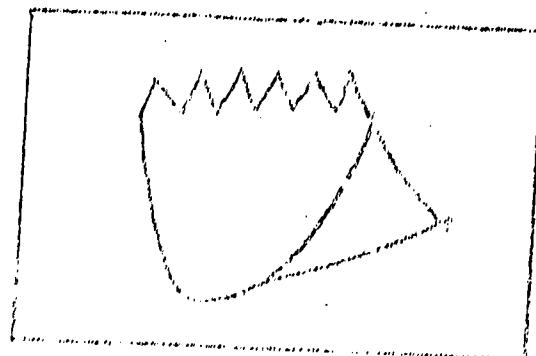
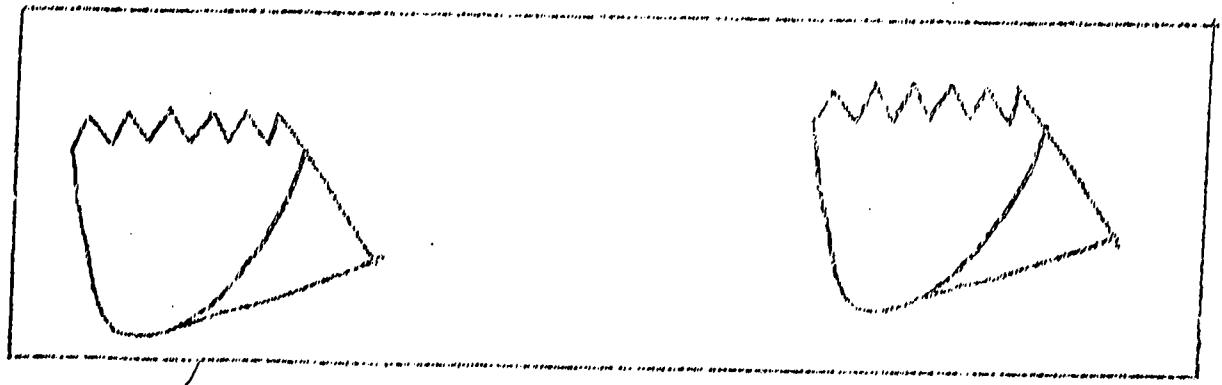


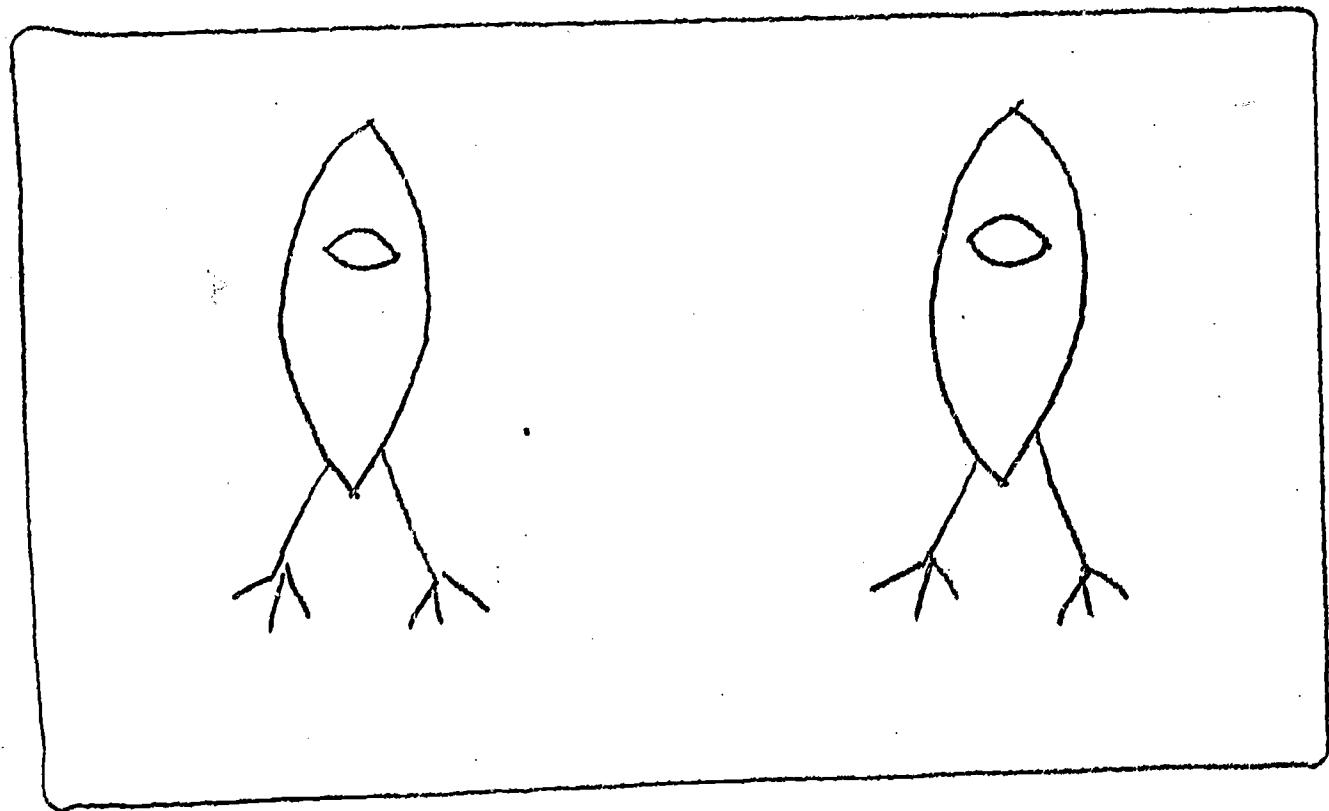
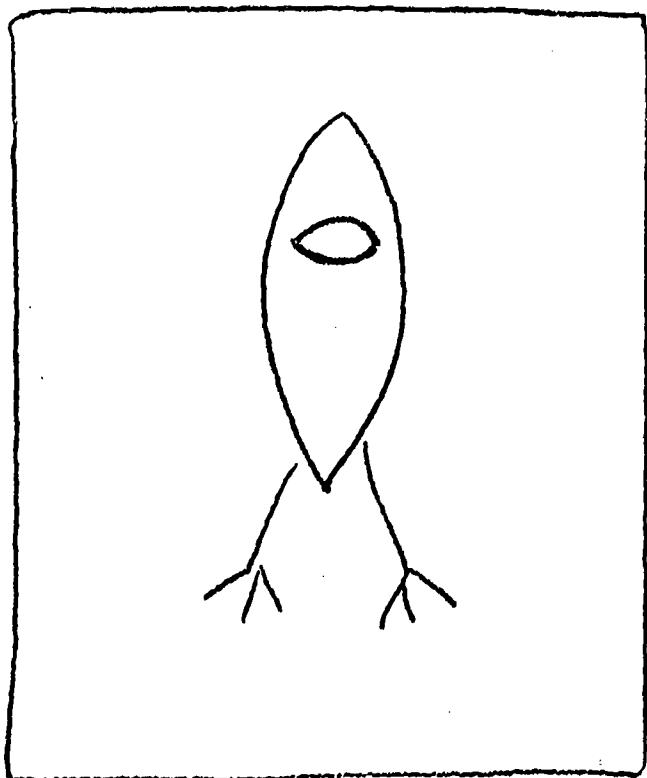
92
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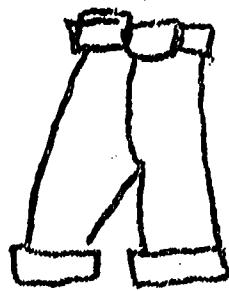
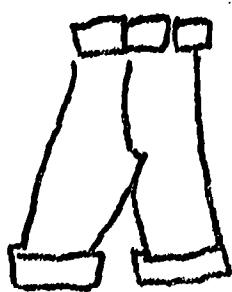
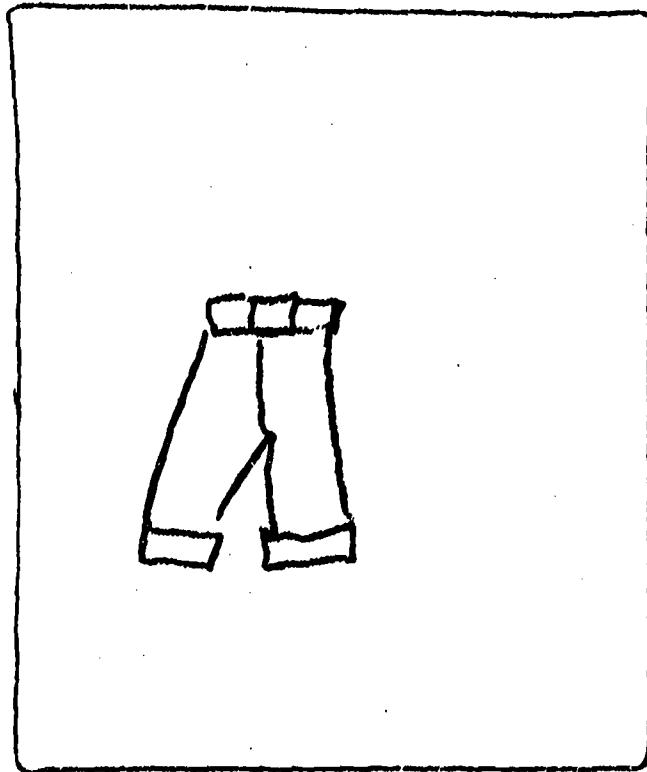




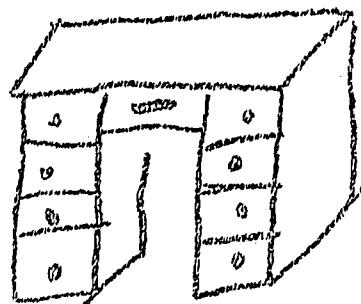
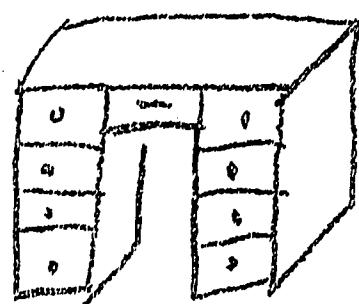
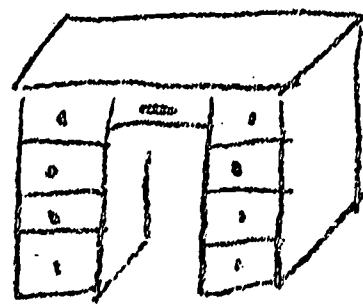




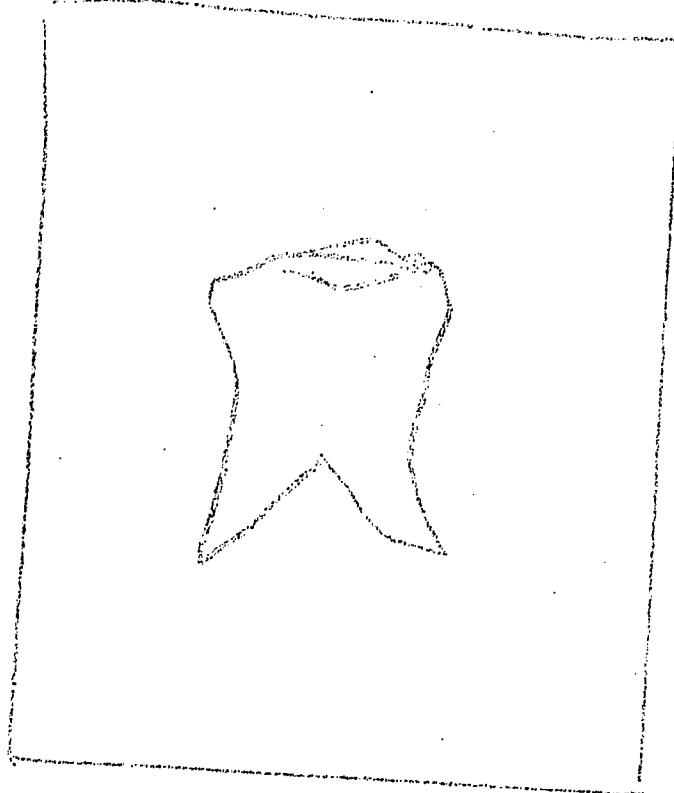
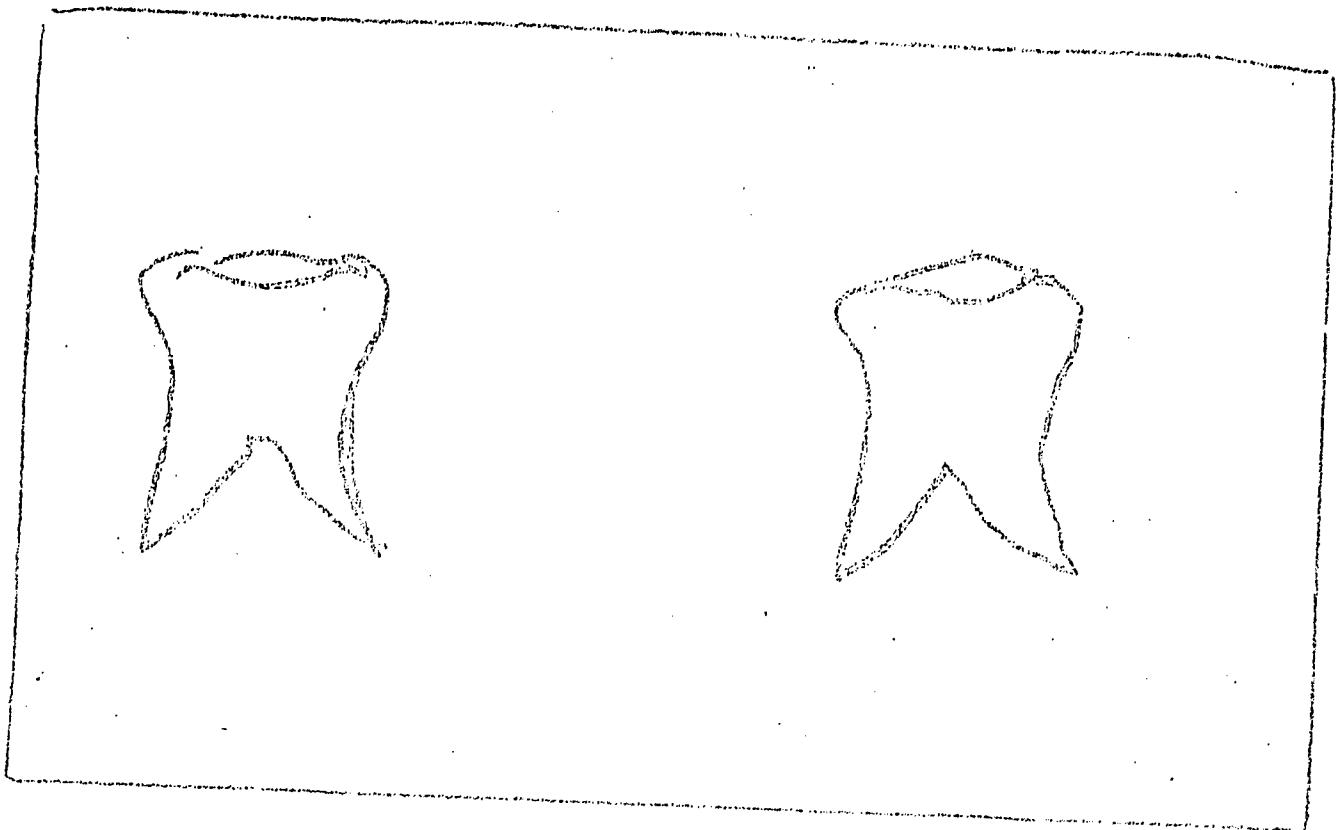


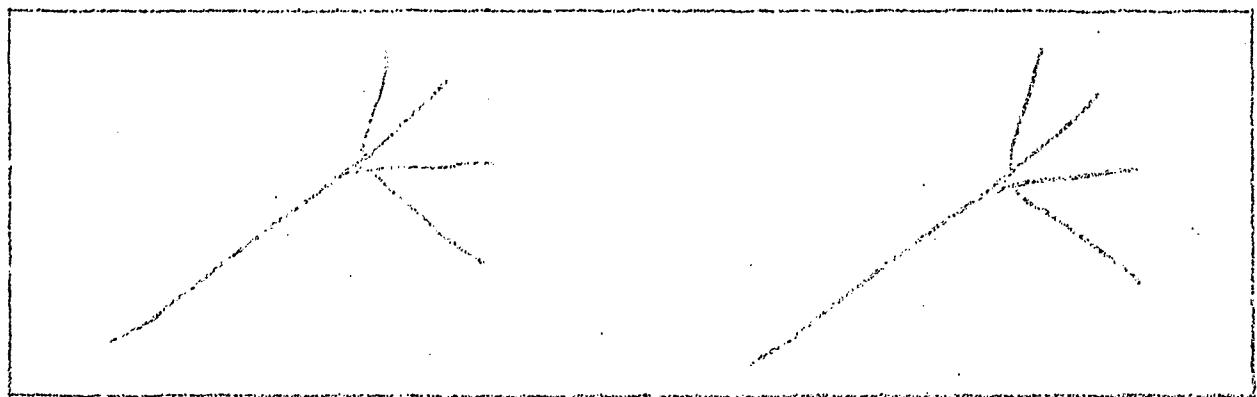
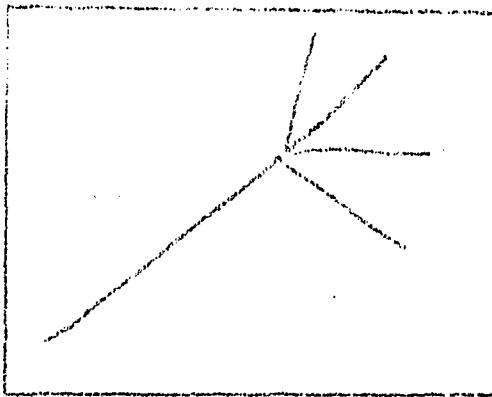


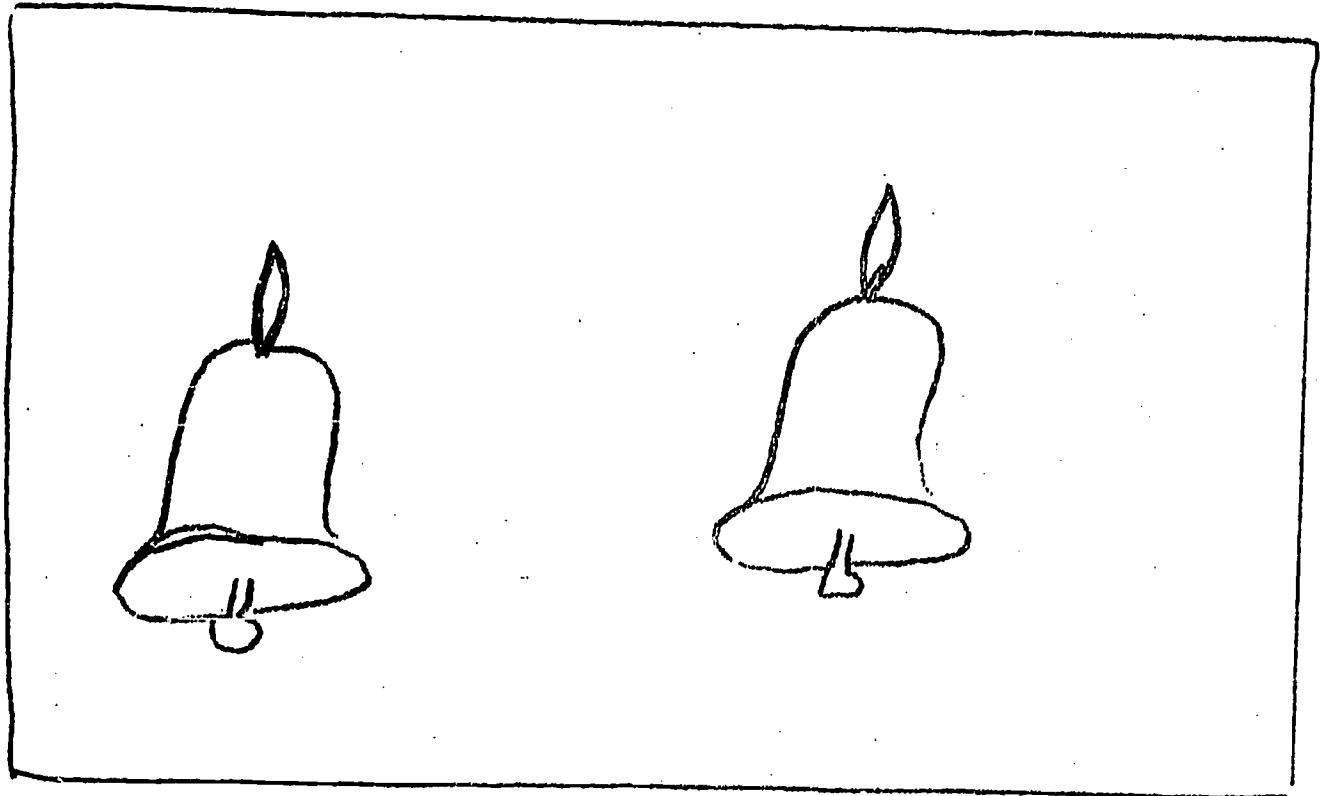
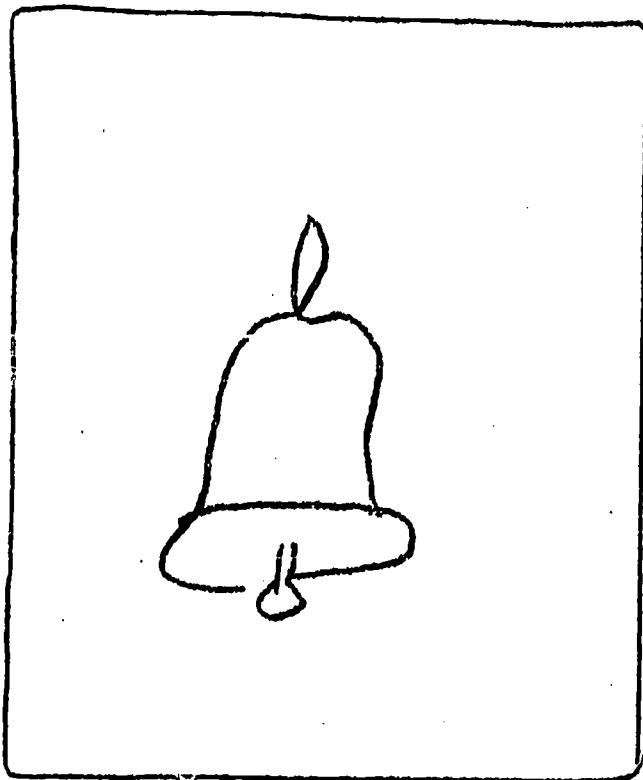
91
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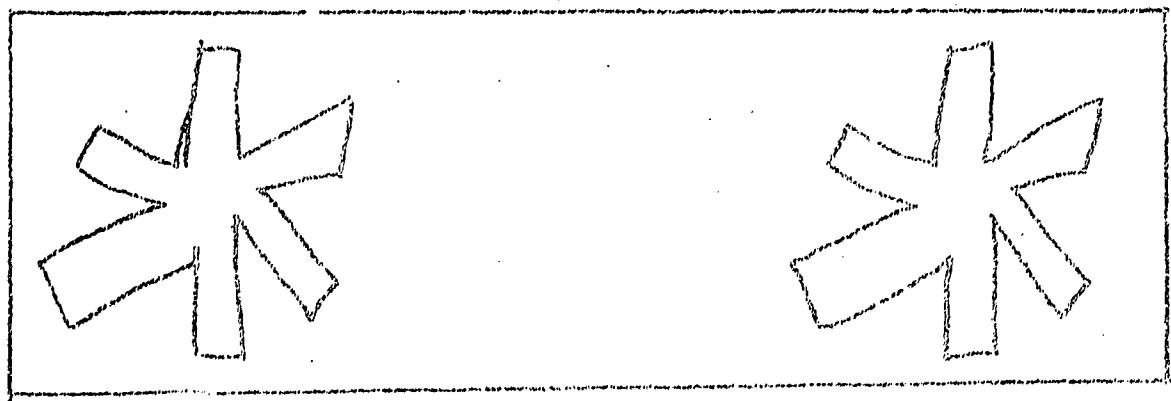
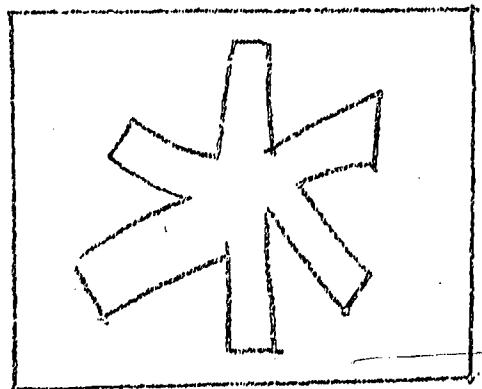


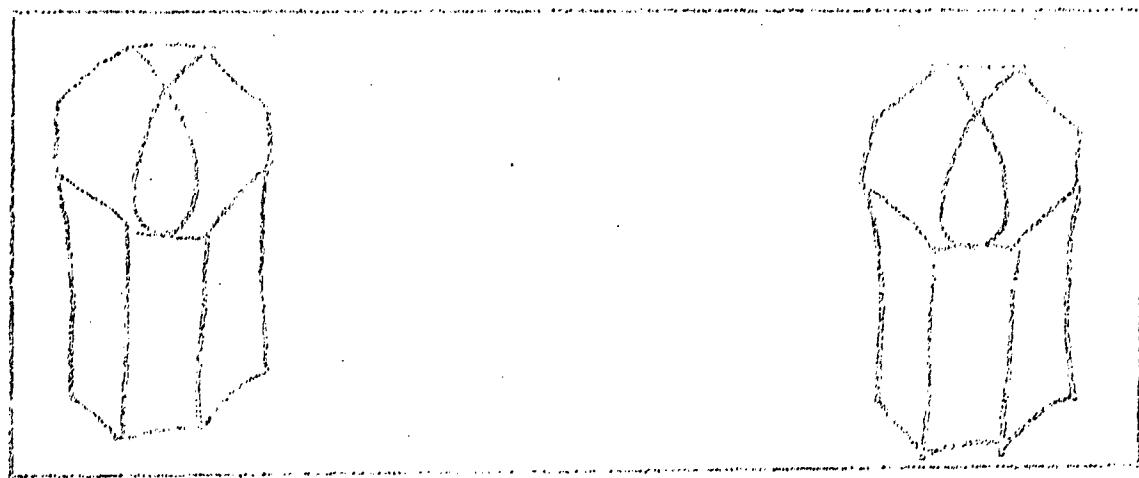
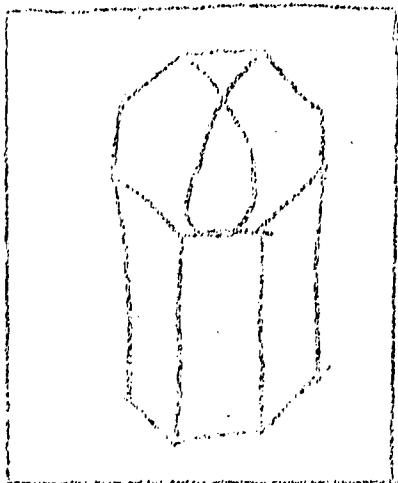




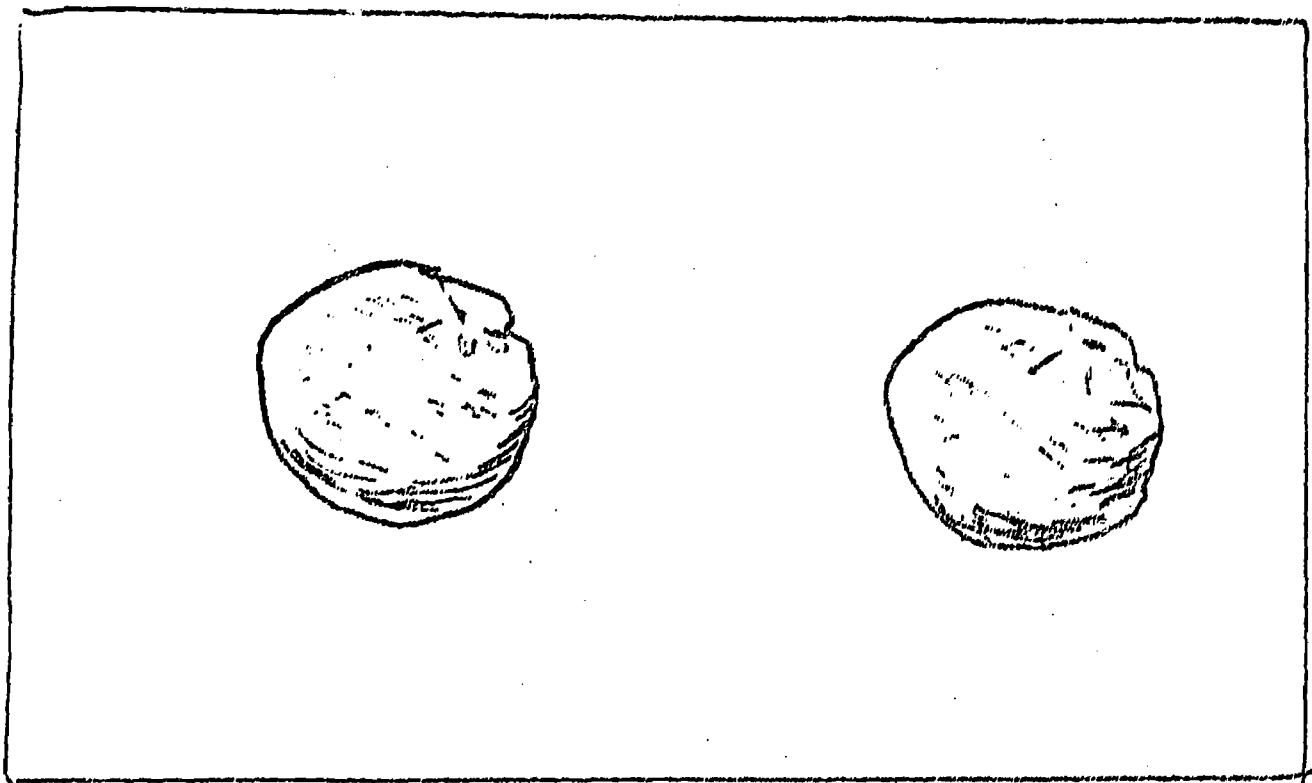
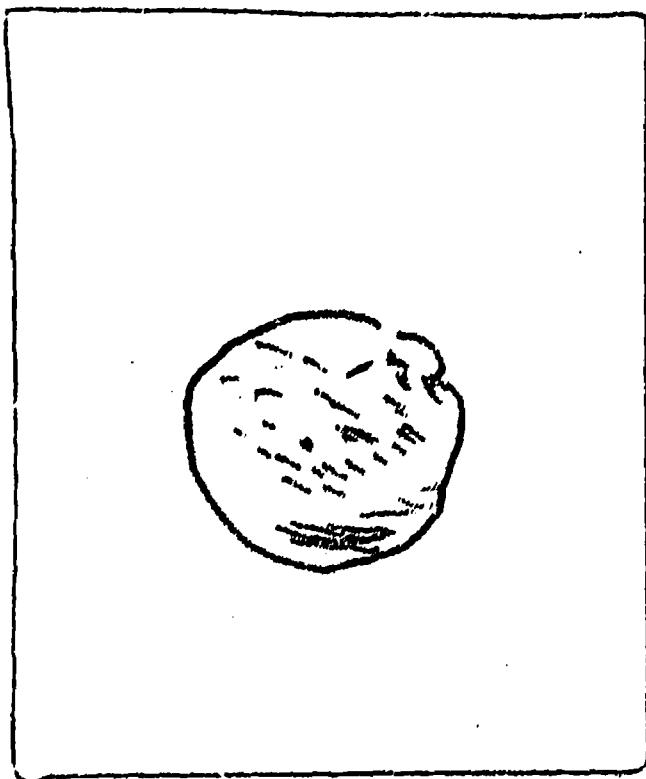


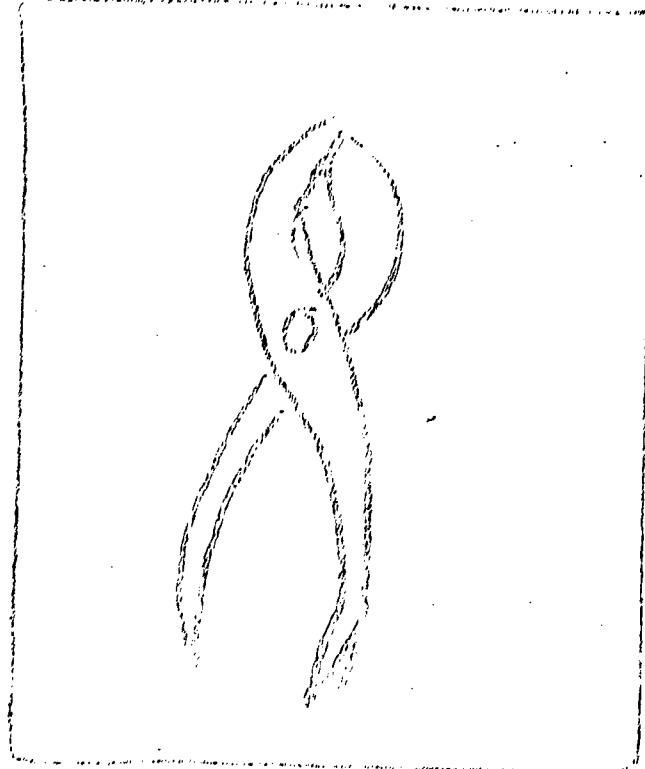
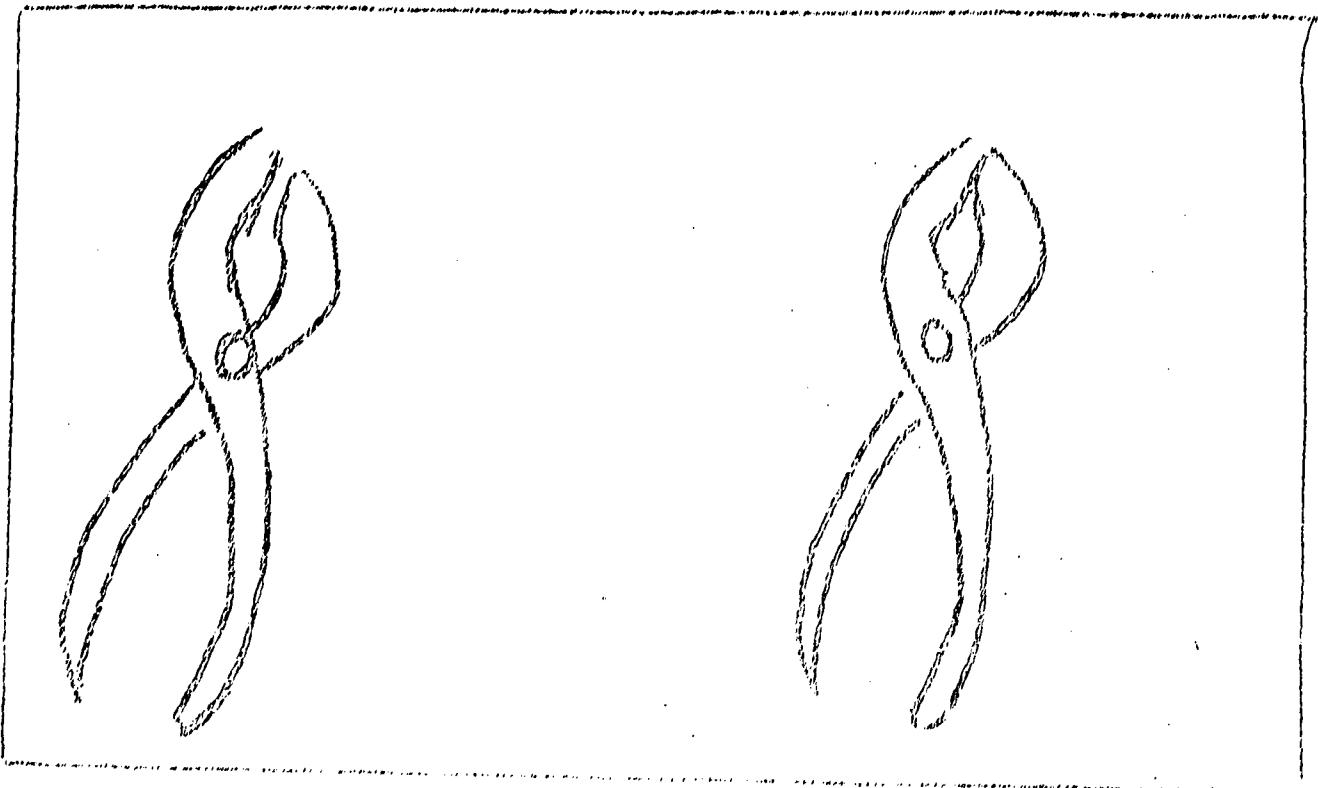




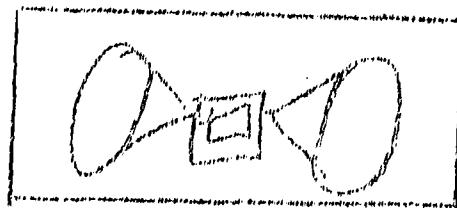


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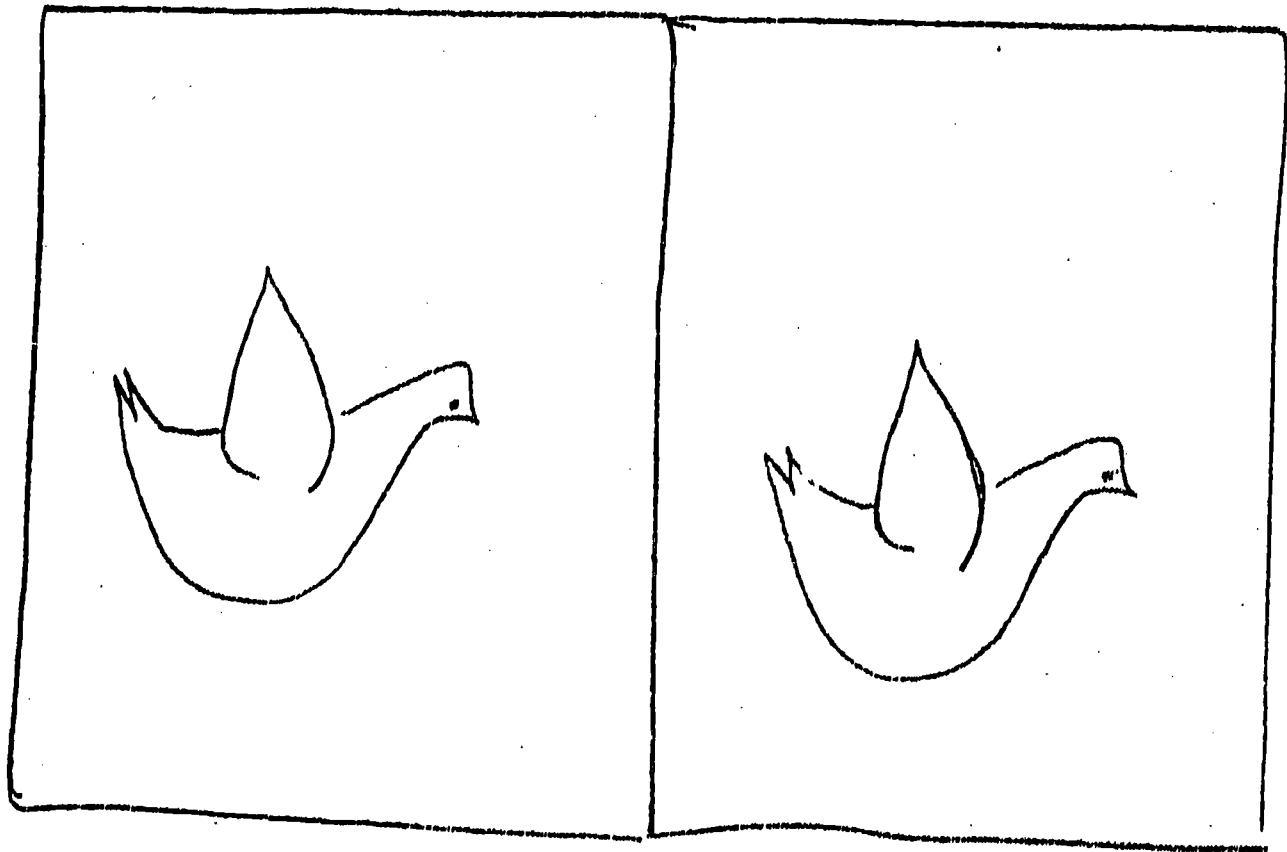
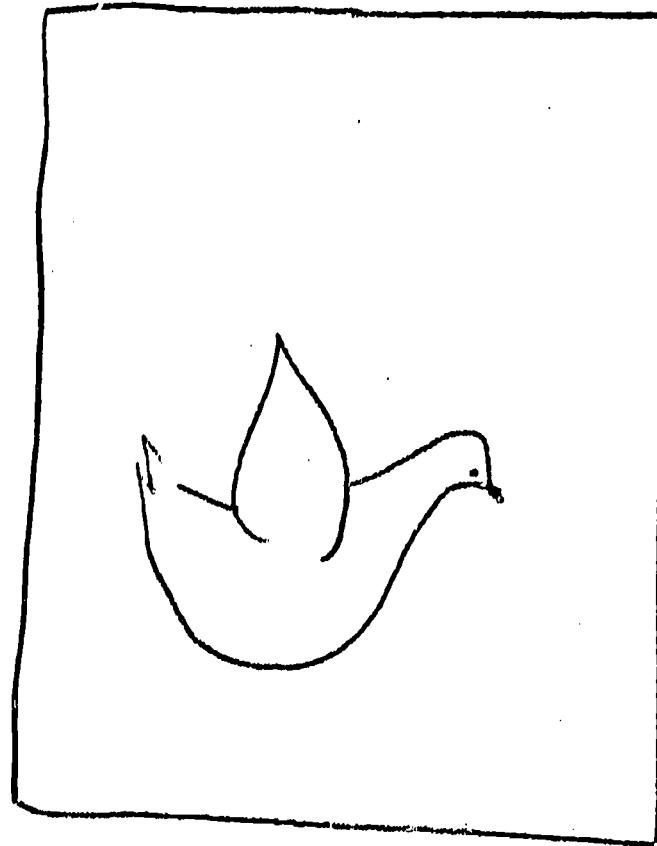


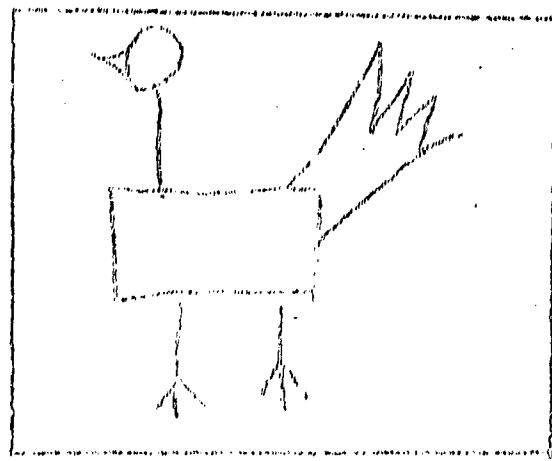
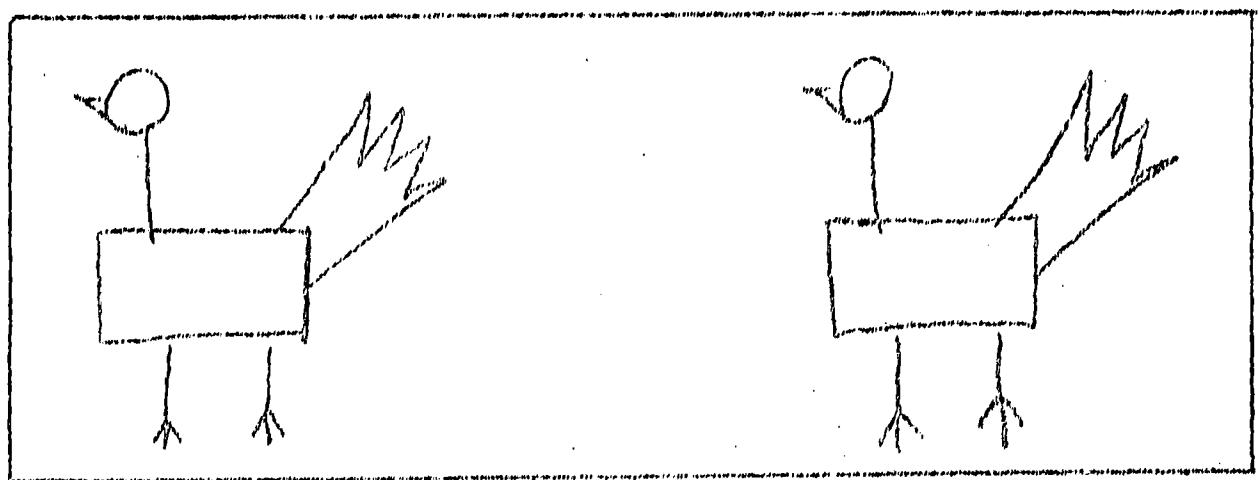


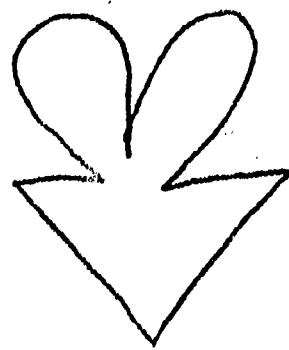
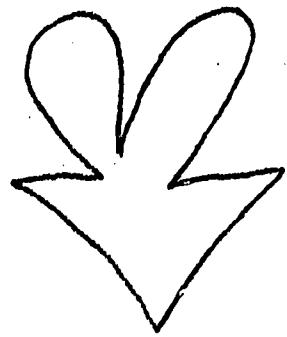
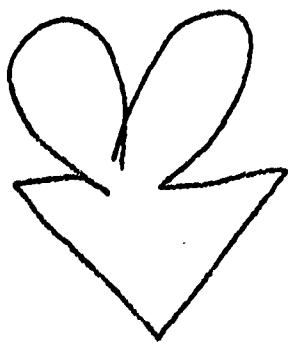
59

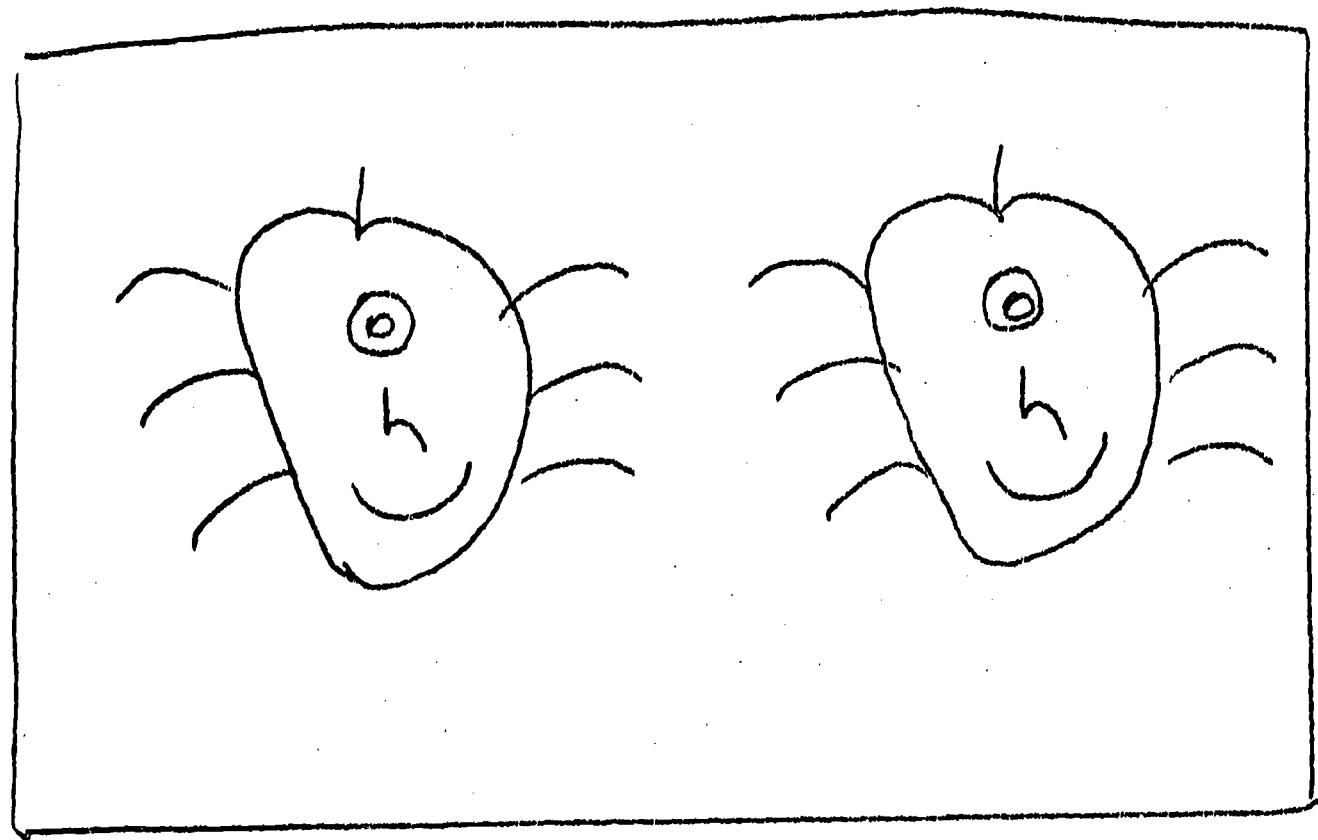
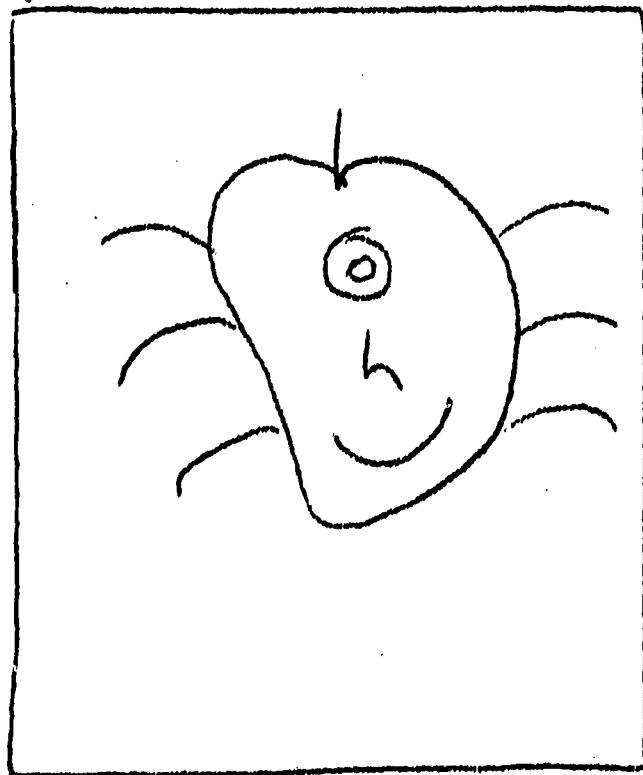


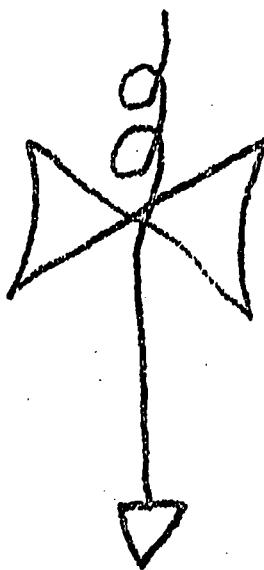
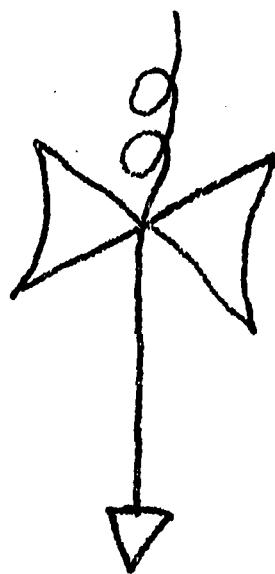
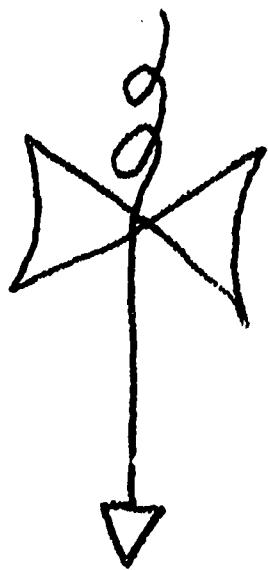
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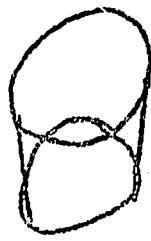
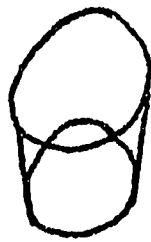


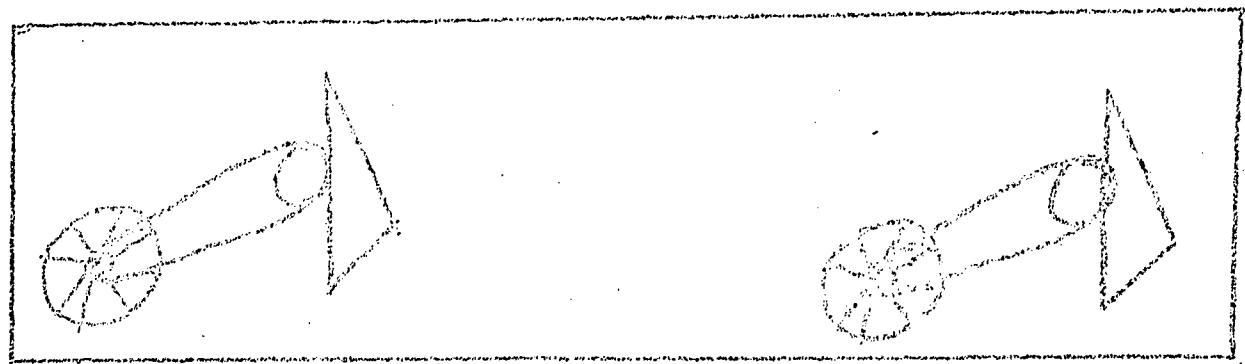
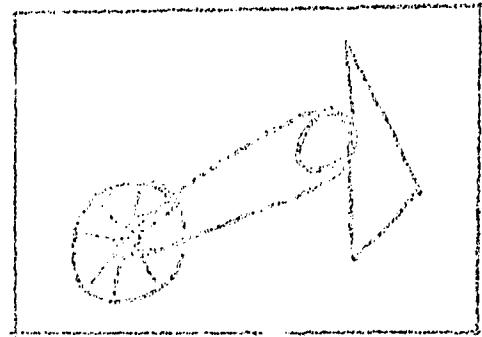


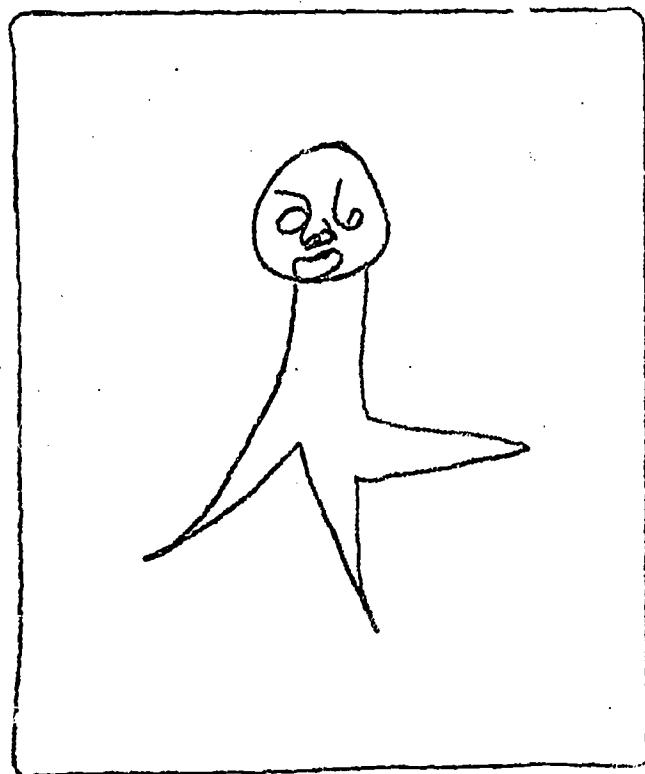
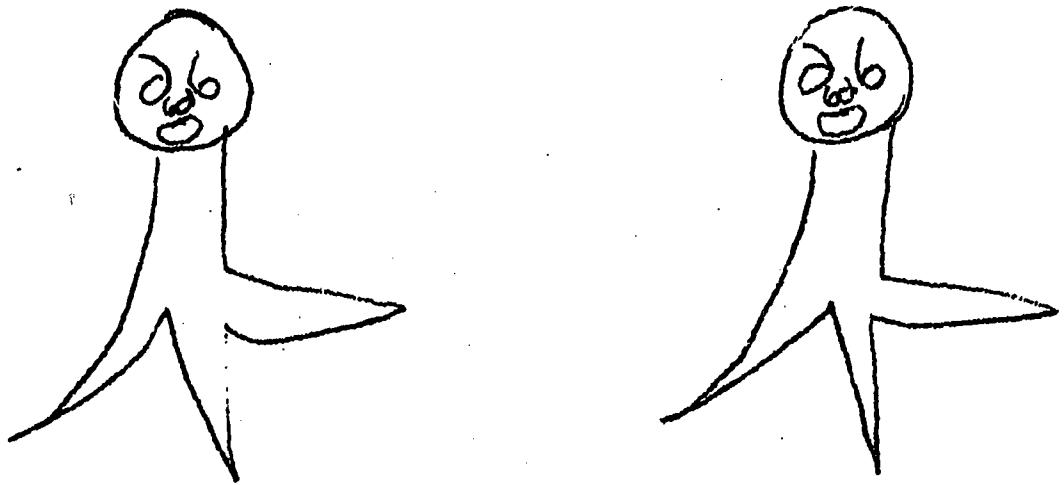


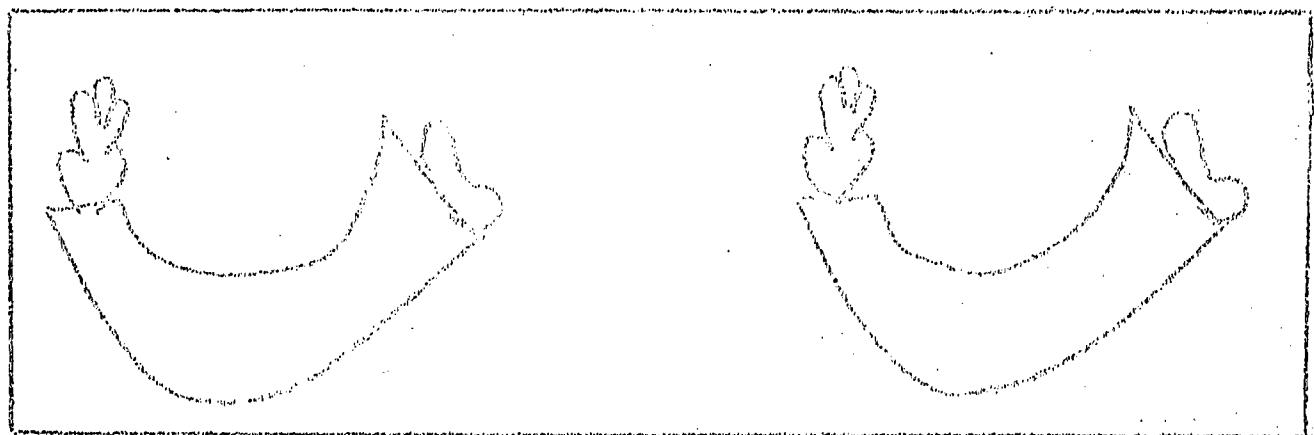
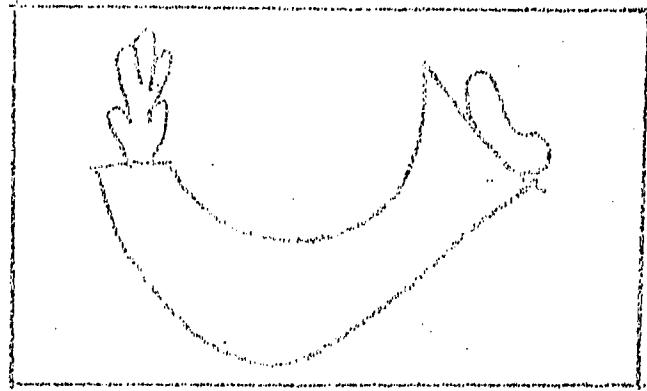




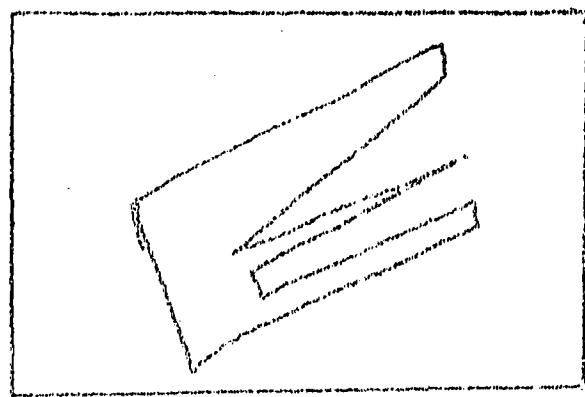
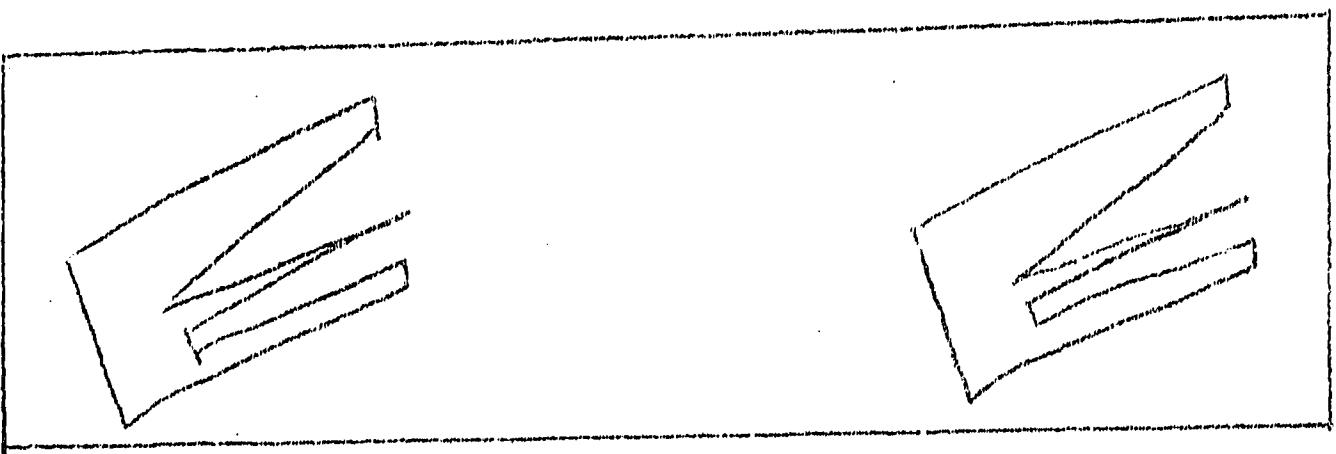


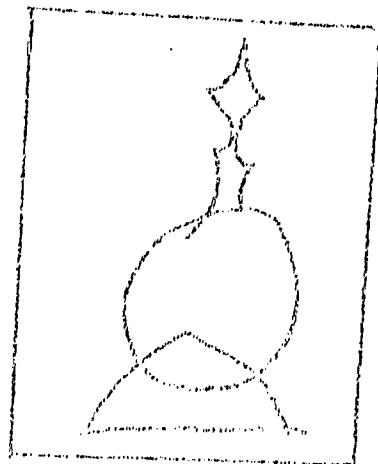
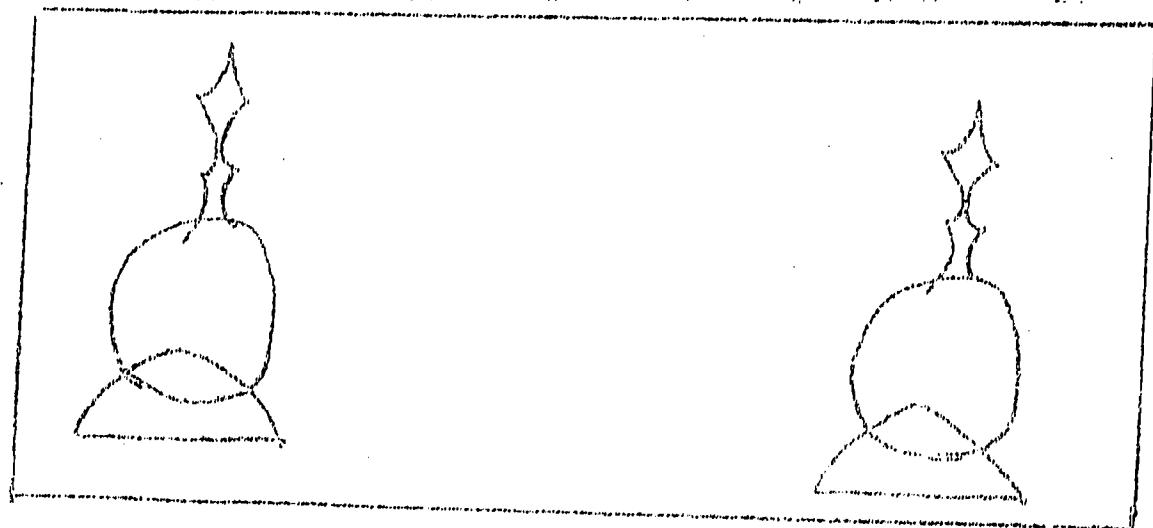




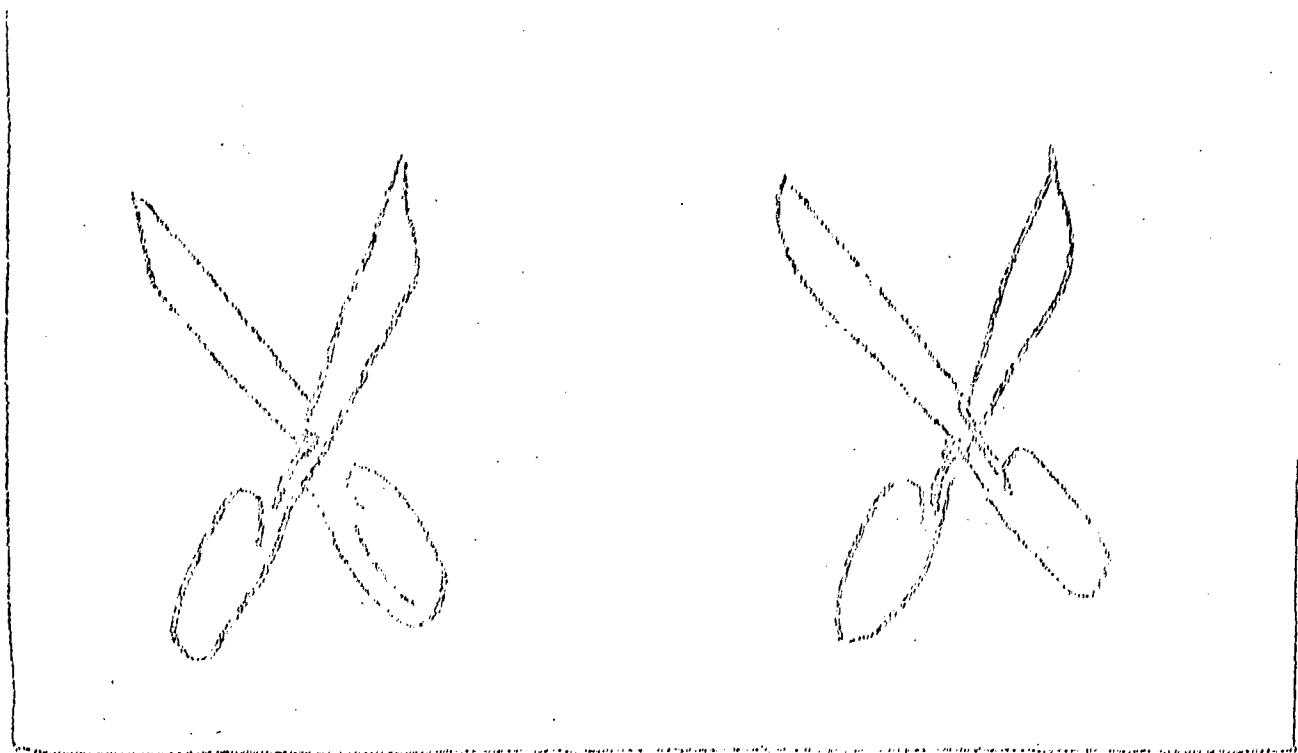
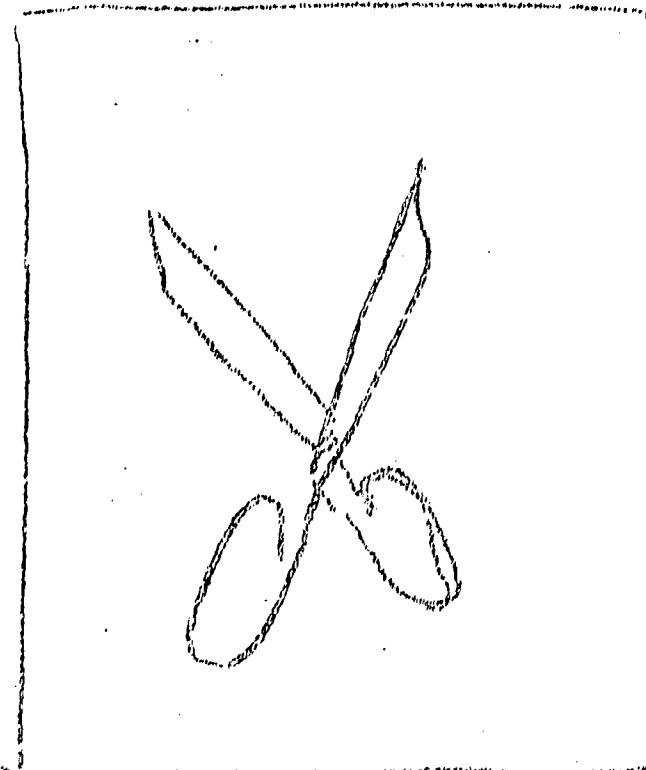


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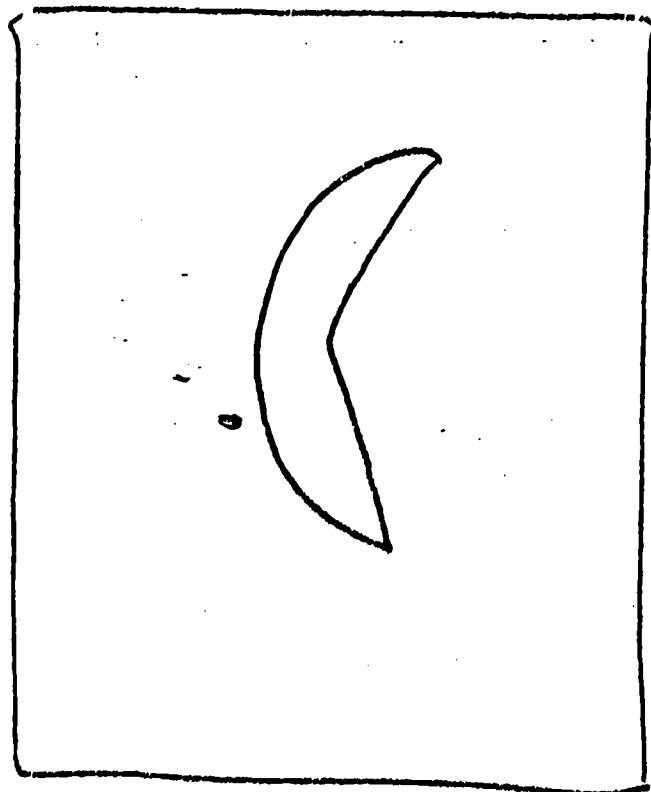




108

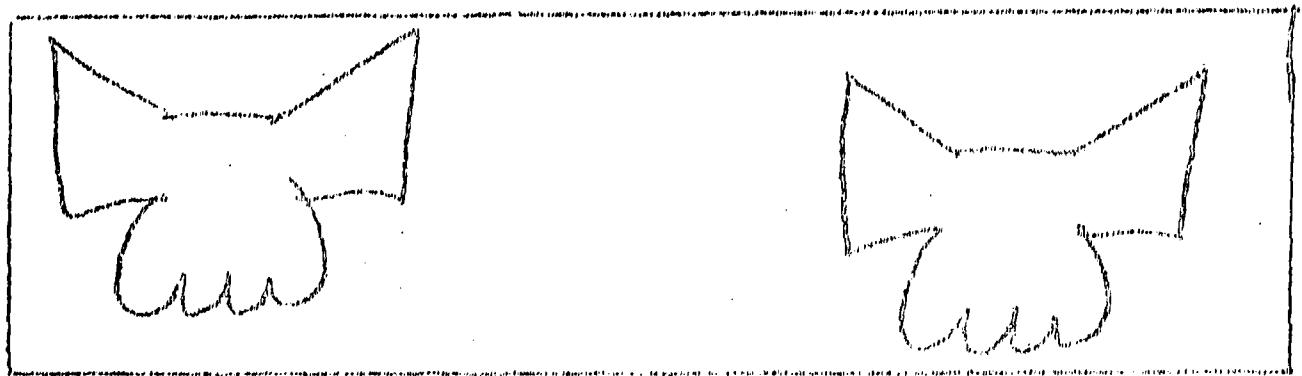
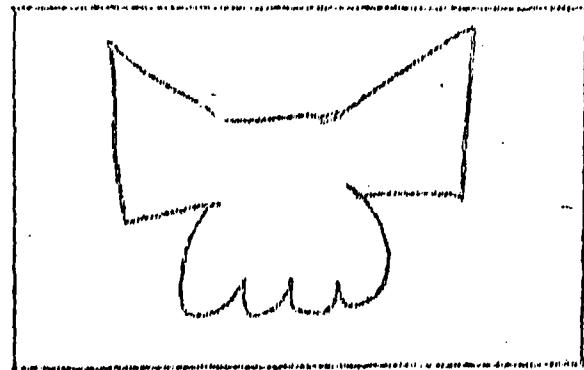


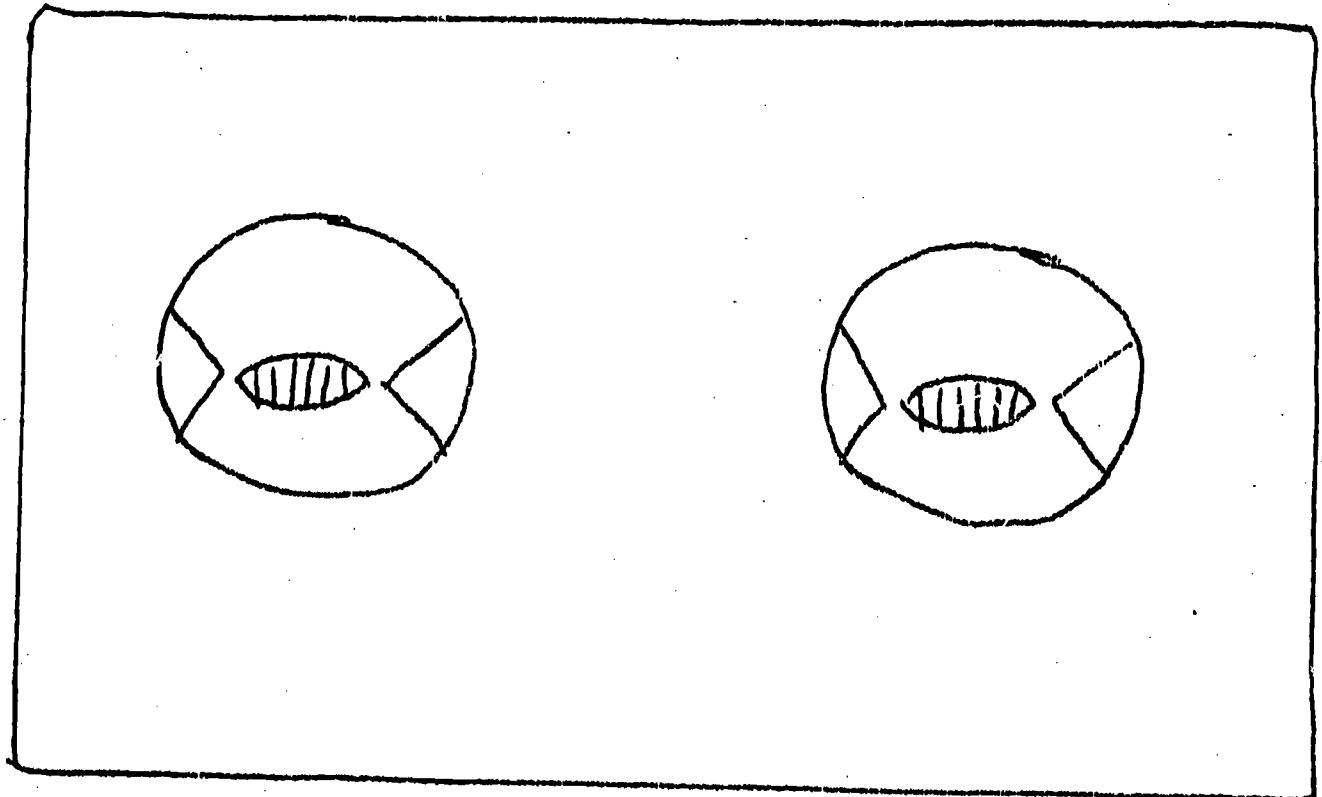
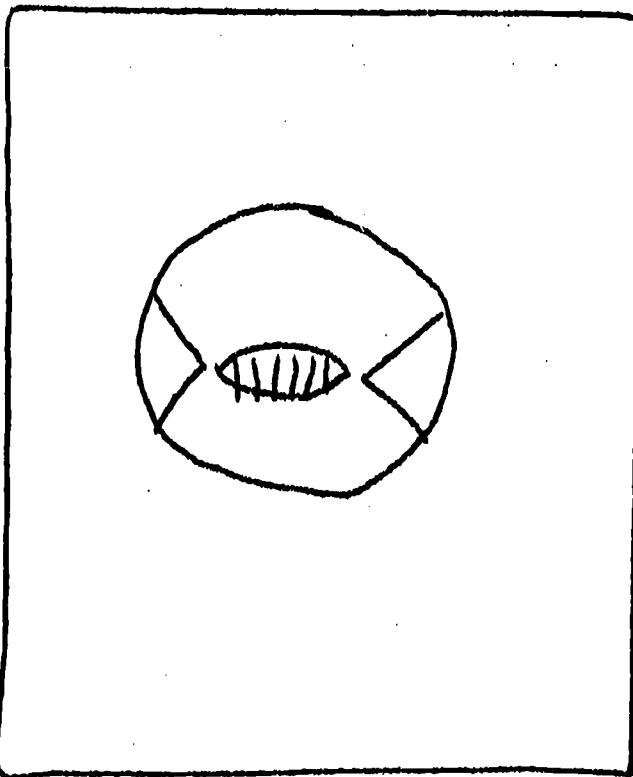
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(6)







75
Sleep

